United Nations S/2017/758

Security Council

Distr.: General
8 September 2017
English
Original: Russian

Letter dated 5 September 2017 from the Permanent Representative of the Russian Federation to the United Nations addressed to the Secretary-General

I have the honour to transmit herewith information bulletins from the Russian Federation Ministry of Defence on the status of implementation of the memorandum on the creation of de-escalation areas in the Syrian Arab Republic for the period 2-5 September 2017 (see annex).

I should be grateful if the present letter and its annex could be circulated as a document of the Security Council.

(*Signed*) V. **Nebenzia**

17-15725 (E) 120917 150917

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Annex to the letter dated 5 September 2017 from the Permanent Representative of the Russian Federation to the United Nations addressed to the Secretary-General

Information bulletin from the Russian Federation Ministry of Defence on the status of implementation of the memorandum on the creation of de-escalation areas (2 September 2017)

Observance of the ceasefire regime

Monitoring groups have continued to monitor observance of the ceasefire regime as part of implementing the memorandum on the creation of de-escalation areas in the Syrian Arab Republic, signed by the Russian Federation, the Republic of Turkey and the Islamic Republic of Iran on 4 May 2017.

The situation in the de-escalation areas has been assessed as stable.

Over the past 24 hours, the Russian representative office of the Russian and Turkish Joint Commission reviewing issues related to violations of the ceasefire regime has reported six incidents of gunfire in the following governorates: four in Aleppo, one in Damascus and one in Dar'a.

The Turkish representative office has reported two violations in Damascus governorate.

Most of the incidents of small arms being fired indiscriminately have been reported in areas controlled by fighters of the terrorist groups Nusrah Front and Islamic State in Iraq and the Levant (ISIL).

Reconciliation of opposing sides

Over the past 24 hours, no ceasefire agreements have been signed.

The number of populated areas that have joined the reconciliation process remains unchanged.

Negotiations on joining the ceasefire regime have continued with armed opposition groups in Aleppo, Damascus, Hama, Homs and Qunaytirah governorates.

The number of armed groups that have announced their commitment to accepting and fulfilling the terms of the ceasefire is unchanged — it is still 229.

Information bulletin from the Russian Federation Ministry of Defence on the status of implementation of the memorandum on the creation of de-escalation areas (3 September 2017)

Observance of the ceasefire regime

Monitoring groups have continued to monitor observance of the ceasefire regime as part of implementing the memorandum on the creation of de-escalation areas in the Syrian Arab Republic, signed by the Russian Federation, the Republic of Turkey and the Islamic Republic of Iran on 4 May 2017.

The situation in the de-escalation areas has been assessed as stable.

Over the past 24 hours, the Russian representative office of the Russian and Turkish Joint Commission reviewing issues related to violations of the ceasefire regime has reported four incidents of gunfire: two in Aleppo governorate and two in Qunaytirah governorate.

The Turkish representative office has reported two violations in Damascus governorate.

Most of the incidents of small arms being fired indiscriminately have been reported in areas controlled by fighters of the terrorist groups Nusrah Front and ISIL.

Provision of humanitarian aid to the population of the Syrian Arab Republic

Over the past 24 hours, the Centre for Reconciliation of Opposing Sides in the Syrian Arab Republic has not carried out any humanitarian operations.

Reconciliation of opposing sides

Over the past 24 hours, no ceasefire agreements have been signed.

The number of populated areas that have joined the reconciliation process remains unchanged at 2,217.

Negotiations on joining the ceasefire regime have continued with armed opposition groups in Aleppo, Damascus, Hama, Homs and Qunaytirah governorates.

The number of armed groups that have announced their commitment to accepting and fulfilling the terms of the ceasefire is unchanged — it is still 229.

Information bulletin from the Russian Federation Ministry of Defence on the status of implementation of the memorandum on the creation of de-escalation areas (4 September 2017)

Observance of the ceasefire regime

Monitoring groups have continued to monitor observance of the ceasefire regime as part of implementing the memorandum on the creation of de-escalation areas in the Syrian Arab Republic, signed by the Russian Federation, the Republic of Turkey and the Islamic Republic of Iran on 4 May 2017.

The situation in the de-escalation areas has been assessed as stable.

Over the past 24 hours, the Russian representative office of the Russian and Turkish Joint Commission reviewing issues related to violations of the ceasefire regime has reported one incident of gunfire in Damascus governorate.

The Turkish representative office has reported three violations: two in Damascus governorate and one in Dar'a governorate.

Most of the incidents of small arms being fired indiscriminately have been reported in areas controlled by fighters of the terrorist groups Nusrah Front and ISIL.

Provision of humanitarian aid to the population of the Syrian Arab Republic

Over the past 24 hours, the Centre for Reconciliation of Opposing Sides in the Syrian Arab Republic has carried out one humanitarian operation, delivering 250 kilograms of medicine to Fafin in Aleppo governorate.

Reconciliation of opposing sides

Over the past 24 hours, three ceasefire agreements have been signed with Burj in Hama governorate, and with Tallaf and Qasr al-Khayr in Homs governorate.

The number of populated areas that have joined the reconciliation process has increased to 2,220.

Negotiations on joining the ceasefire regime have continued with armed opposition groups in Aleppo, Damascus, Hama, Homs and Qunaytirah governorates.

The number of armed groups that have announced their commitment to accepting and fulfilling the terms of the ceasefire is unchanged — it is still 229.

Information bulletin from the Russian Federation Ministry of Defence on the status of implementation of the memorandum on the creation of de-escalation areas (5 September 2017)

Observance of the ceasefire regime

Monitoring groups have continued to monitor observance of the ceasefire regime as part of implementing the memorandum on the creation of de-escalation areas in the Syrian Arab Republic, signed by the Russian Federation, the Republic of Turkey and the Islamic Republic of Iran on 4 May 2017.

The situation in the de-escalation areas has been assessed as stable.

Over the past 24 hours, the Russian representative office of the Russian and Turkish Joint Commission reviewing issues related to violations of the ceasefire regime has reported seven incidents of gunfire in the following governorates: three in Aleppo, one in Damascus, one in Hama, one in Ladhiqiyah and one in Qunaytirah.

The Turkish representative office has reported two violations: one in Aleppo governorate and one in Hama governorate.

Most of the incidents of small arms being fired indiscriminately have been reported in areas controlled by fighters of the terrorist groups Nusrah Front and ISIL.

Provision of humanitarian aid to the population of the Syrian Arab Republic

Over the past 24 hours, the Centre for Reconciliation of Opposing Sides in the Syrian Arab Republic has carried out one humanitarian operation, delivering 250 kilograms of medicine to Afrin in Aleppo governorate.

Reconciliation of opposing sides

Over the past 24 hours, two ceasefire agreements have been signed with Shaytalun and Tall Sinan in Hama governorate.

The number of populated areas that have joined the reconciliation process has increased to 2,222.

Negotiations on joining the ceasefire regime have continued with armed opposition groups in Aleppo, Damascus, Hama, Homs and Qunaytirah governorates.

The number of armed groups that have announced their commitment to accepting and fulfilling the terms of the ceasefire is unchanged — it is still 229.

United Nations A/71/1037–S/2017/759

General Assembly
Security Council

Distr.: General
8 September 2017

Original: English

General Assembly
Seventy-first session
Agenda item 31
Prevention of armed conflict

Security Council
Seventy-second year

Letter dated 5 September 2017 from the Permanent Representative of Ukraine to the United Nations addressed to the Secretary-General

I have the honour to enclose herewith a commentary of the Ministry of Foreign Affairs of Ukraine on the possibility of deploying a United Nations peacekeeping operation to Donbas (see annex).

I would appreciate your kind assistance in having the present letter and its annex distributed as a document of the General Assembly, under agenda item 31, and of the Security Council.

(*Signed*) Volodymyr **Yelchenko**
Ambassador
Permanent Representative

17-15718 (E) 140917

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Annex to the letter dated 5 September 2017 from the Permanent Representative of Ukraine to the United Nations addressed to the Secretary-General

Commentary of the Ministry of Foreign Affairs of Ukraine on the possibility of deploying a United Nations peacekeeping operation to Donbas

5 September 2017

The Ministry of Foreign Affairs of Ukraine takes note of the statement of the President of the Russian Federation on the possibility of deploying United Nations peacekeepers to Donbas, as published in the media. We are of the view that the deployment of a United Nations peacekeeping operation can contribute to restoring peace and security in the east of Ukraine. It should also be noted, in this connection, that back in March 2015, the President of Ukraine, Petro Poroshenko, formally addressed the Secretary-General and the President of the Security Council with a request to deploy, in the territory of the country, a peacekeeping operation under United Nations auspices. That letter was circulated on 2 April 2015 as a document of the Security Council (S/2015/225). Prior to that, the initiative of the President of Ukraine had been supported by the National Security and Defence Council and the Verkhovna Rada (parliament) of Ukraine.

The objective of such an operation would be to guarantee lasting peace in certain areas of the Donetsk and Luhansk regions of Ukraine on the basis of the Minsk agreements and in line with the fundamental principles and norms of the Charter of the United Nations, in parallel with enhancing the capacities of the Organization for Security and Cooperation in Europe Special Monitoring Mission to Ukraine.

Russia, the aggressor State, has since endeavoured to sabotage Ukraine's proposals and refused to consider our request to the Security Council; it even claimed, as was the case in June 2016, that Ukraine had never addressed such a request to the Security Council.

Ukraine's stance in this regard has always been clear: any international peacekeeping presence should be deployed upon agreement of and after exhaustive consultations with the Ukrainian side, provide for the removal of all occupation forces and mercenaries as well as their weaponry from the territory of Ukraine and ensure reliable control over the Ukrainian-Russian border in order to prevent Russian military, arms, equipment and mercenaries from getting into the territory of Ukraine. In case a decision is taken to deploy a peacekeeping operation, any presence of military or other personnel of the aggressor State in the territory of Ukraine under the guise of peacekeepers should be ruled out, as it is inconsistent with the basic principles of United Nations peacekeeping. Similarly out of the question is getting an agreement to deploy a peacekeeping operation from illegal armed groups in certain areas of the Donetsk and Luhansk regions of Ukraine that are supported, financed and equipped by the Russian Federation.

The statement of the President of the Russian Federation, as published in the media, is additional evidence of the efforts of Russia, as a party to the conflict, to present the aggression as an internal Ukrainian conflict and to distort the very idea and purposes of such a peacekeeping operation; this will not serve its main objective, namely to establish lasting peace in Donbas and restore the territorial integrity of Ukraine.

At the same time, Ukraine continues to consistently support the initiative to deploy a United Nations peacekeeping operation to Donbas and is ready for further work on this issue. In this connection, the Permanent Mission of Ukraine to the United Nations has been tasked with conducting consultations with the members of the Security Council.

It is also our position that consistent adherence by the Russian side to the regime of a lasting and complete ceasefire, as agreed at the end of August and in connection with the start of the school year, should create a favourable precondition for starting a dialogue on deploying a peacekeeping operation to Donbas.

United Nations S/2017/760

Security Council

Distr.: General
5 September 2017

Original: English

Letter dated 5 September 2017 from the Chair of the Security Council Committee established pursuant to resolution 1718 (2006) addressed to the President of the Security Council

On behalf of the Committee established pursuant to resolution 1718 (2006), I have the honour to transmit herewith the report of the Committee dated 5 September 2017, submitted in accordance with paragraph 5 of Security Council resolution 2371 (2017) (see annex).

I would appreciate it if the present letter and its annex were brought to the attention of the members of the Security Council and issued as a document of the Council.

(*Signed*) Sebastiano **Cardi**
Chair
Security Council Committee established
pursuant to resolution 1718 (2006)

17-15719 (E) 210917

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Annex

Report of the Security Council Committee established pursuant to resolution 1718 (2006) prepared in accordance with paragraph 5 of resolution 2371 (2017)

On 5 August 2017, the Security Council, by its resolution 2371 (2017), decided to adjust the measures imposed by paragraph 7 of resolution 2321 (2016) through the designation of additional conventional arms-related items, materials, equipment, goods and technology, and directed the Committee to undertake its tasks to this effect and to report to the Council within 30 days of the adoption of resolution 2371 (2017).

In order to fulfil those tasks, the Committee considered a list of conventional arms-related items, materials, equipment, goods and technology.

On 5 September 2017, the Committee acted in line with the directive of the Security Council and approved the following list:

Special materials and related equipment[1]

Systems, equipment and components

"Composite" structures or laminates[i]

1. "Composite" structures or laminates consisting of an organic "matrix" and materials as follows:

(a) Inorganic "fibrous or filamentary materials" that have a "specific modulus" exceeding 2.54×10^6 m and a melting, softening, decomposition or sublimation point exceeding 1,649°C in an inert environment.[ii]

(b) "Fibrous or filamentary materials" having any of the following:

1. Materials composed of aromatic polyetherimides having a glass transition temperature (Tg) exceeding 290°C,

2. Polyarylene ketones,

3. Polyarylene sulphides where the arlylene group is biphenylene, triphenylene or combinations thereof,

4. Polybiphenylenethersulphone having a Tg exceeding 290°C, or

5. Any of the above materials "commingled" with any of the following:

a. Organic "fibrous or filamentary materials", with a "specific modulus" exceeding 12.7×10^6 m and a "specific tensile strength" exceeding 23.5×10^4 m.[iii]

b. Carbon "fibrous or filamentary materials", having a "specific modulus" exceeding 14.65×10^6 m; and specific tensile strength exceeding 26.82×10^4 m.[iv]

c. Inorganic "fibrous or filamentary materials", having a "specific modulus" exceeding 2.54×10^6 m; and a melting, softening, decomposition or sublimation point exceeding 1,649°C in an inert environment.[v]

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[1] The agreement of the Committee on the list shall not be considered as a precedent for the future work of Security Council committees, including the Committee established pursuant to resolution 1718 (2006), or for other subsidiary bodies of the Security Council or multilateral mechanisms.

(c) Organic "fibrous or filamentary materials" with a "specific modulus" exceeding 12.7×10^6 m and with a "specific tensile strength" exceeding 23.5×10^4 m.

(d) Carbon "fibrous or filamentary materials" having a "specific modulus" exceeding 14.65×10^6 m and a specific tensile exceeding 26.82×10^4 m.

(e) Fully or partially resin-impregnated or pitch-impregnated "fibrous or filamentary materials" (prepregs), metal or carbon-coated "fibrous or filamentary materials" (preforms) or carbon fibre preforms having any of the following "fibrous or filamentary materials" and resins:

1. Inorganic "fibrous or filamentary materials" with a "specific modulus" exceeding 2.54×10^6 m and a melting, softening, decomposition or sublimation point exceeding 1,649°C in an inert environment, or

2. Organic or carbon "fibrous or filamentary materials", having all of the following:

a. "Specific modulus" exceeding 10.15×10^6 m; and

b. "Specific tensile strength" exceeding 17.7×10^4 m; and

3. Resin or pitch, from unprocessed fluorinated compounds such as:

a. Fluorinated polyimides containing 10 per cent by weight or more of combined fluorine;

b. Fluorinated phosphazene elastomers containing 30 per cent by weight or more of combined fluorine; or

4. Phenolic resins with Dynamic Mechanical Analysis glass transition temperature (DMA Tg) equal to, or exceeding, 180°C and having a phenolic resin; or

5. Other resin or pitch with Dynamic Mechanical Analysis glass transition temperature (DMA Tg) equal to, or exceeding, 232°C.[vi]

Metals and alloys[vii]

"Fibrous or filamentary materials" having any of the following:

(a) Materials composed of aromatic polyetherimides having a glass transition temperature (Tg) exceeding 290°C,

(b) Polyarylene ketones,

(c) Polyarylene sulphides where the arlylene group is biphenylene, triphenylene or combinations thereof,

(d) Polybiphenylenethersulphone having a Tg exceeding 290°C, or

(e) Any of the above materials commingled with any of the following:

1. Organic "fibrous or filamentary materials", with a "specific modulus" exceeding 12.7×10^6 m and "specific tensile strength" exceeding 23.5×10^4 m,[viii]

2. Carbon "fibrous or filamentary materials", having a "specific modulus" exceeding 14.65×10^6 m and "specific tensile strength" exceeding 26.82×10^4 m,[ix]

3. Inorganic "fibrous or filamentary materials", having a "specific modulus" exceeding 2.54×10^6 m and melting, softening, decomposition or sublimation point exceeding 1,649°C in an inert environment.[x]

Software

"Software" for the "development" of the materials listed above.

Technology

"Technology" for the "development" or "production" of the equipment or materials listed above.

Test, inspection and production equipment

1. Equipment for the "production" or inspection of "composite" structures or laminates previously specified under the "Composite structures or laminates" and the "metals and alloys" sections of this document; and

2. Specially designed components and accessories to include:

(a) Filament winding machines, of which the motions for positioning, wrapping and winding fibres are coordinated and programmed in three or more "primary servo positioning" axes, specially designed for the manufacture of "composite" structures or laminates, from "fibrous or filamentary materials".

(b) "Tape-laying machines", of which the motions for positioning and laying tape are coordinated and programmed in five or more "primary servo positioning" axes, specially designed for the manufacture of "composite" airframe or missile structures.[xi]

(c) Multidirectional, multidimensional weaving machines or interlacing machines, including adapters and modification kits, specially designed or modified for weaving, interlacing or braiding fibres for "composite" structures.[xii]

(d) Equipment specially designed or adapted for the "production" of reinforcement fibres, as follows:

1. Equipment for converting polymeric fibres (such as polyacrylonitrile, rayon, pitch or polycarbosilane) into carbon fibres or silicon carbide fibres, including special equipment to strain the fibre during heating;

2. Equipment for the chemical vapor deposition of elements or compounds, on heated filamentary substrates, to manufacture silicon carbide fibres;

3. Equipment for the wet-spinning of refractory ceramics (such as aluminium oxide);

4. Equipment for converting aluminium containing precursor fibres into alumina fibres by heat treatment;

5. Equipment for producing prepregs specified in section 10, paragraph "d", under "Materials", by the hot melt method;

6. Non-destructive inspection equipment specially designed for "composite" materials, as follows:

a. X-ray tomography systems for three dimensional defect inspection;

b. Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers are simultaneously coordinated and programmed in four or more axes to follow the three dimensional contours of the component under inspection.

Materials

1. Everything previously listed under the "Composite structures or laminates" and the "Metals and alloys" sections of this document.

2. Metal alloys, metal alloy powder and alloyed materials including the following:

(a) Aluminides, including:

1. Nickel aluminides containing a minimum of 15 per cent by weight aluminium, a maximum of 38 per cent by weight aluminium and at least one additional alloying element;

2. Titanium aluminides containing 10 per cent by weight or more aluminium and at least one additional alloying element.

(b) Metal alloys made from the powder or particulate material including:

1. Nickel alloys having a stress-rupture life of 10,000 hours or longer at 650°C at a stress of 676 MPa or a low cycle fatigue life of 10,000 cycles or more at 550°C at a maximum stress of 1,095 MPa;

2. Niobium alloys having a stress-rupture life of 10,000 hours or longer at 800°C at a stress of 400 MPa or a low cycle fatigue life of 10,000 cycles or more at 700°C at a maximum stress of 700 MPa;

3. Titanium alloys having a stress-rupture life' of 10,000 hours or longer at 450°C at a stress of 200 MPa or a low cycle fatigue life of 10,000 cycles or more at 450°C at a maximum stress of 400 MPa;

4. Aluminium alloys having a tensile strength of 240 MPa or more at 200°C or a tensile strength of 415 MPa or more at 25°C;

5. Magnesium alloys having a tensile strength of 345 MPa or more and a corrosion rate of less than 1 mm/year in 3 per cent sodium chloride aqueous solution measured in accordance with ASTM standard G-31 or national equivalents;

6. Metal alloy powder or particulate material, having all of the following and made from any of the following composition systems:

a. Nickel alloys (Ni-Al-X, Ni-X-Al) qualified for turbine engine parts or components, i.e. with less than 3 non-metallic particles (introduced during the manufacturing process) larger than 100 µm in 10^9 alloy particles

b. Niobium alloys (Nb-Al-X or Nb-X-Al, Nb-Si-X or Nb-X-Si, Nb-Ti-X or Nb-X-Ti)

c. Titanium alloys (Ti-Al-X or Ti-X-Al)

d. Aluminium alloys (Al-Mg-X or Al-X-Mg, Al-Zn-X or Al-X-Zn, Al-Fe-X or Al-X-Fe) or

e. Magnesium alloys (Mg-Al-X or Mg-X-Al)

7. Made in a controlled environment by any of the following processes:

a. "Vacuum atomization"

b. "Gas atomization"

c. "Rotary atomization"

d. "Splat quenching"

e. "Melt spinning and comminution"

f. "Melt extraction and comminution"

g. "Mechanical alloying"

h. "Plasma atomization"

3. Magnetic metals, of all types and of whatever form, having any of the following:

(a) Initial relative permeability of 120,000 or more and a thickness of 0.05 mm or less

(b) Magnetostrictive alloys having any of the following:

1. A saturation magnetostriction of more than 5×10^{-4}; or

2. A magnetomechanical coupling factor (k) of more than 0.8; or

(c) Amorphous or "nanocrystalline" alloy strips, having all of the following:

1. A composition having a minimum of 75 per cent by weight of iron, cobalt or nickel;

2. A saturation magnetic induction (Bs) of 1.6 T or more; and any of the following:

a. A strip thickness of 0.02 mm or less; or

b. An electrical resistivity of 2×10^{-4} ohm cm or more.

4. Uranium titanium alloys or tungsten alloys with a "matrix" based on iron, nickel or copper, having all of the following:

(a) A density exceeding 17.5 g/cm^3;

(b) An elastic limit exceeding 880 MPa;

(c) An ultimate tensile strength exceeding 1,270 MPa; and

(d) An elongation exceeding 8 per cent.

5. "Superconductive" composite conductors in lengths exceeding 100 m or with a mass exceeding 100 g, as follows:

(a) "Superconductive" "composite" conductors containing one or more niobium-titanium "filaments", having all of the following:

1. Embedded in a "matrix" other than a copper or copper-based mixed "matrix"; and

2. Having a cross-section area less than 0.28×10^{-4} mm^2 (6 µm in diameter for circular "filaments");

(b) "Superconductive" "composite" conductors consisting of one or more "superconductive" "filaments" other than niobium-titanium, having all of the following:

1. A "critical temperature" at zero magnetic induction exceeding -263.31°C; and

2. Remaining in the "superconductive" state at a temperature of -268.96°C when exposed to a magnetic field oriented in any direction perpendicular to the longitudinal axis of conductor and corresponding to a magnetic induction of 12 T with critical current density exceeding 1,750 A/mm^2 on overall cross-section of the conductor.

(c) "Superconductive" "composite" conductors consisting of one or more "superconductive" "filaments", which remain "superconductive" above -158.16°C

6. Fluids and lubricating materials, as follows:

(a) Lubricating materials containing, as their principal ingredients, any of the following:

1. Phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof; or

2. Fluorinated silicone fluids with a kinematic viscosity of less than 5,000 mm^2/s (5,000 centistokes) measured at 25°C;

(b) Damping or flotation fluids having all of the following:

1. Purity exceeding 99.8 per cent;

2. Containing less than 25 particles of 200 µm or larger in size per

3. 100 ml; and

4. Made from at least 85 per cent of any of the following:

a. Dibromotetrafluoroethane (CAS 25497-30-7, 124-73-2, 27336-23-8);

b. Polychlorotrifluoroethylene (oily and waxy modifications only); or

c. Polybromotrifluoroethylene

(c) Fluorocarbon electronic cooling fluids having all of the following:[xiii]

1. Containing 85 per cent by weight or more of any of the following, or mixtures thereof:

a. Monomeric forms of perfluoropolyalkylether-triazines or perfluoroaliphatic-ethers;

b. Perfluoroalkylamines;

c. Perfluorocycloalkanes; or

d. Perfluoroalkanes

e. Density at 298 K (25°C) of 1.5 g/ml or more;

f. In a liquid state at 273 K (0°C); and

g. Containing 60 per cent or more by weight of fluorine

7. Ceramic powders, non-"composite" ceramic materials, ceramic-"matrix" "composite" materials and precursor materials, as follows:

(a) Ceramic powders of single or complex borides of titanium, having total metallic impurities, excluding intentional additions, of less than 5,000 ppm, an average particle size equal to or less than 5 µm and no more than 10 per cent of the particles larger than 10 µm;

(b) Non-"composite" ceramic materials in crude or semi-fabricated form, composed of borides of titanium with a density of 98 per cent or more of the theoretical density;[xiv]

(c) Ceramic-ceramic "composite" materials with a glass or oxide-"matrix" and reinforced with fibres having all of the following:

1. Made from any of the following materials:

a. Si-N;

b. Si-C;

c. Si-Al-O-N; or

d. Si-O-N; and

2. Having a "specific tensile strength" exceeding 12.7×10^3 m

(d) Ceramic-ceramic "composite" materials, with or without a continuous metallic phase, incorporating particles, whiskers or fibres, where carbides or nitrides of silicon, zirconium or boron form the "matrix";

(e) Precursor materials (i.e., special purpose polymeric or metallo-organic materials) for producing any phase or phases of the materials specified above, as follows:

1. Polydiorganosilanes (for producing silicon carbide);

2. Polysilazanes (for producing silicon nitride);

3. Polycarbosilazanes (for producing ceramics with silicon, carbon and nitrogen components);

(f) Ceramic-ceramic "composite" materials with an oxide or glass "matrix" reinforced with continuous fibres from any of the following systems:[xv]

1. Al_2O_3 (CAS 1344-28-1); or

2. Si-C-N.

8. Non-fluorinated polymeric substances as follows:

(a) Imides as follows:[xvi]

1. Bismaleimides;

2. Aromatic polyamide-imides (PAI) having a "glass transition temperature (Tg)" exceeding 290°C;

3. Aromatic polyimides having a "glass transition temperature (Tg)" exceeding 232°C;

4. Aromatic polyetherimides having a "glass transition temperature (Tg)" exceeding 290° C;

(b) Polyarylene ketones;

(c) Polyarylene sulphides, where the arylene group is biphenylene, triphenylene or combinations thereof;

(d) Polybiphenylenethersulphone having a "glass transition temperature (Tg)" exceeding 290° C.

9. Unprocessed fluorinated compounds as follows:

(a) Fluorinated polyimides containing 10 per cent by weight or more of combined fluorine;

(b) Fluorinated phosphazene elastomers containing 30 per cent by weight or more of combined fluorine.

10. "Fibrous or filamentary materials" as follows:

(a) Organic "fibrous or filamentary materials", having all of the following:[xvii]

1. "specific modulus" exceeding 12.7×10^6 m; and

2. "specific tensile strength" exceeding 23.5×10^4 m;

(b) Carbon "fibrous or filamentary materials", having all of the following:[xviii]

1. "specific modulus" exceeding 14.65×10^6 m; and

2. "specific tensile strength" exceeding 26.82×10^4 m;

(c) Inorganic "fibrous or filamentary materials", having all of the following:[xix]

1. "Specific modulus" exceeding 2.54 x 10^6 m; and

2. Melting, softening, decomposition or sublimation point exceeding 1,649°C in an inert environment

(d) "Fibrous or filamentary materials", having any of the following:

1. Composed of any of the following:

a. Polyetherimides specified in section 8 above

b. Other materials specified in section 8 above

2. Composed of materials specified above and commingled with other fibres specified in section 10.

(e) Fully or partially resin-impregnated or pitch-impregnated fibrous or filamentary materials (prepregs), metal or carbon-coated "fibrous or filamentary materials" (preforms) or carbon fibre preforms, having all of the following:[xx]

1. Having any of the following:

a. Inorganic "fibrous or filamentary materials" specified above

b. Organic or carbon "fibrous or filamentary materials", having all of the following:

1. "Specific modulus" exceeding 10.15 x 10^6 m; and

2. "Specific tensile strength" exceeding 17.7 x 10^4 m; and

2. Having any of the following:

a. Resin or pitch, specified in previous sections;

b. "Dynamic Mechanical Analysis glass transition temperature (DMA Tg)" equal to or exceeding 180°C and having a phenolic resin; or

c. "Dynamic Mechanical Analysis glass transition temperature (DMA Tg)" equal to or exceeding 232°C and having a resin or pitch, not specified earlier and not being a phenolic resin.

11. Metals and compounds, as follows:[xxi]

(a) Metals in particle sizes of less than 60 µm whether spherical, atomized, spheroidal, flaked or ground, manufactured from material consisting of 99 per cent or more of zirconium, magnesium and alloys thereof;

(b) Boron or boron alloys, with a particle size of 60 µm or less, as follows:

1. Boron with a purity of 85 per cent by weight or more;

2. Boron alloys with a boron content of 85 per cent by weight or more;

(c) Guanidine nitrate (CAS 506-93-4);

(d) Nitroguanidine (NQ) (CAS 556-88-7)

Other technology

"Technology" for the repair of "composite" structures, laminates or materials specified by the "systems, equipment and components" section of this document.[xxii]

Materials processing equipment

Software

"Software" specially designed for the "development" or "production" of equipment as follows:

(a) Machine tools for turning having two or more axes which can be coordinated simultaneously for "contouring control" having any of the following:

1. "Unidirectional positioning repeatability" equal to or less (better) than 0.9 µm along one or more linear axis with a travel length less than 1.0 m; or

2. "Unidirectional positioning repeatability" equal to or less (better) than 1.1 µm along one or more linear axis with a travel length equal to or greater than 1.0 m.

(b) Machine tools for milling having any of the following:

1. Three linear axes plus one rotary axis which can be coordinated simultaneously for "contouring control" having any of the following:

a. "Unidirectional positioning repeatability" equal to or less (better) than 0.9 µm along one or more linear axis with a travel length less than 1.0 m; or

b. "Unidirectional positioning repeatability" equal to or less (better) than 1.1 µm along one or more linear axis with a travel length equal to or greater than 1.0 m.

2. Five or more axes which can be coordinated simultaneously for "contouring control" having any of the following:

(a) "Unidirectional positioning repeatability" equal to or less (better) than 0.9 µm along one or more linear axis with a travel length less than 1.0 m;

(b) "Unidirectional positioning repeatability" equal to or less (better) than 1.4 µm along one or more linear axis with a travel length equal to or greater than 1 m and less than 4 m;

(c) "Unidirectional positioning repeatability" equal to or less (better) than 6.0 µm along one or more linear axis with a travel length equal to or greater than 4 m;

3. A "unidirectional positioning repeatability" for jig boring machines equal to or less (better) than 1.1 µm along one or more linear axis.

4. Electrical discharge machines of the non-wire type which have two or more rotary axes which can be coordinated simultaneously for "contouring control".

5. Deep-hole-drilling machines and turning machines modified for deep-hole-drilling, having a maximum depth-of-bore capability exceeding 5 m.

6. "Numerically controlled" or manual machine tools, and specially designed components, controls and accessories therefor, specially designed for the shaving, finishing, grinding or honing of hardened (Rc = 40 or more) spur, helical and double-helical gears with a pitch diameter exceeding 1,250 mm and a face width of 15 per cent of pitch diameter or larger finished to a quality of AGMA 14 or better (equivalent to ISO 1328 class 3).

Computers

Systems, equipment and components

Electronic computers and related systems, equipment and components, or "electronic assemblies" having any of the following:

(a) Specially designed to have any of the following:

1. Radiation hardened to exceed any of the following specifications:

a. Total dose 5×10^3 Gy (Si);

b. Dose rate upset 5×10^6 Gy (Si)/s; or

c. Single event upset 1×10^{-8} error/bit/day.

Note: Does not apply to computers specially designed for "civil aircraft" applications.

Telecommunications

Systems, equipment and components

1. Telecommunication systems and equipment, and specially designed components and accessories therefor, having any of the following characteristics, functions or features:

(a) Being radio equipment employing "spread spectrum" techniques, including "frequency hopping" techniques, and having any of the following:

1. User programmable spreading codes; or

2. A total transmitted bandwidth which is 100 or more times the bandwidth of any one information channel and in excess of 50 kHz.

Note: Does not apply to radio equipment specially designed for use with any of the following:

(a) Civil cellular radio-communications systems; or

(b) Fixed or mobile satellite earth stations for commercial civil telecommunications.

Note: Does not apply to equipment designed to operate at an output power of 1 watt or less.

(b) Being digitally controlled radio receivers having all of the following:

1. More than 1,000 channels;

2. A "channel switching time" of less than 1 ms;

3. Automatic searching or scanning of a part of the electromagnetic spectrum; and

4. Identification of the received signals or the type of transmitter.

Note: Does not apply to radio equipment specially designed for use with civil cellular radio-communications systems.

Technical note:

"Channel switching time": the time (i.e., delay) to change from one receiving frequency to another, to arrive at or within ±0.05 per cent of the final specified

receiving frequency. Items having a specified frequency range of less than ±0.05 per cent around their centre frequency are defined to be incapable of channel frequency switching.

2. Telecommunication test, inspection and production equipment and specially designed components or accessories therefor, specially designed for the "development" or "production" of telecommunication equipment, functions or features.

Note: Does not apply to optical fibre characterization equipment.

Sensors and "lasers"

Systems, equipment and components

1. Hydrophones having any of the following:[xxiii]

(a) Incorporating continuous flexible sensing elements

(b) Incorporating flexible assemblies of discrete sensing elements with either a diameter or length less than 20 mm and with a separation between elements of less than 20 mm;

(c) Having any of the following sensing elements:

1. Optical fibres;

2. "Piezoelectric polymer" films other than polyvinylidene-fluoride (PVDF) and its co-polymers {P(VDF-TrFE) and P(VDF-TFE)};

3. "Flexible piezoelectric composites"

4. Lead-magnesium-niobate/lead-titanate (i.e., Pb(Mg 1/3 Nb 2/3)O3-PbTiO3, or PMN-PT) piezoelectric single crystals grown from solid solution; or

5. Lead-indium-niobate/lead-magnesium niobate/lead-titanate (i.e., Pb(In ½ Nb 1/2)O3–Pb(Mg1/3 Nb2/3)O3–PbTiO3, or PIN-PMN-PT) piezoelectric single crystals grown from solid solution;

(d) Designed to operate at depths exceeding 35 m with acceleration compensation; or

€ Designed for operation at depths exceeding 1,000 m.

2. Towed acoustic hydrophone arrays having any of the following:

(a) Hydrophone group spacing of less than 12.5 m or "able to be modified" to have hydrophone group spacing of less than 12.5 m;

(b) Designed or "able to be modified" to operate at depths exceeding 35 m;

(c) Heading sensors specified below in section 3;

(d) Longitudinally reinforced array hoses;

(e) An assembled array of less than 40 mm in diameter;

(f) Hydrophone characteristics specified by section 1 above or a hydrophone with a hydrophone sensitivity better than 180 dB at any depth with no acceleration, or

(g) Accelerometer-based hydro-acoustic with the following:

1. Composed of three accelerometers arranged along three distinct axes;

2. Having an overall "acceleration sensitivity" better than 48 dB (reference 1,000 mV rms per 1g);

3. Designed to operate at depths greater than 35 metres; and

4. Operating frequency below 20 kHz.

3. Heading sensors having all of the following:

(a) An "accuracy" of better than 0.5°; and

(b) Designed to operate at depths exceeding 35 m or having an adjustable or removable depth sensing device in order to operate at depths exceeding 35 m;

4. Bottom or bay-cable hydrophone arrays having any of the following:

(a) Incorporating hydrophones specified by section 1 above or a hydrophone with a hydrophone sensitivity better than 180 dB at any depth with no acceleration.

(b) Incorporating multiplexed hydrophone group signal modules having all of the following characteristics:

1. Designed to operate at depths exceeding 35 m or having an adjustable or removable depth sensing device in order to operate at depths exceeding 35 m; and

2. Capable of being operationally interchanged with towed acoustic hydrophone array modules; or

(c) Incorporating accelerometer based hydro-acoustic sensors.[xxiv]

Optical Sensors

"Monospectral imaging sensors" and "multispectral imaging sensors", designed for remote sensing applications and having any of the following:

(a) An Instantaneous-Field-Of-View (IFOV) of less than 200 µrad (microradians);[xxv] or

(b) Specified for operation in the wavelength range exceeding 400 nm but not exceeding 30,000 nm and having all the following:

1. Providing output imaging data in digital format; and

2. Having any of the following characteristics:

a. "Space-qualified"; or

b. Designed for airborne operation, using other than silicon detectors, and having an IFOV of less than 2.5 mrad (milliradians);

Optics

1. "Space-qualified" components for optical systems, as follows:

(a) Components lightweighted to less than 20 per cent "equivalent density" compared with a solid blank of the same aperture and thickness;

(b) Raw substrates, processed substrates having surface coatings (single-layer or multi-layer, metallic or dielectric, conducting, semiconducting or insulating) or having protective films;

(c) Segments or assemblies of mirrors designed to be assembled in space into an optical system with a collecting aperture equivalent to or larger than a single optic 1 m in diameter;

(d) Components manufactured from "composite" materials having a coefficient of linear thermal expansion equal to or less than 5×10^{-6} in any coordinate direction;

2. Optical control equipment as follows:

(a) Equipment specially designed to maintain the surface figure or orientation of the "space-qualified" components specified above under "Optics".

(b) Steering, tracking, stabilization and resonator alignment equipment as follows:

1. Beam steering mirror stages designed to carry mirrors having diameter or major axis length greater than 50 mm and having all of the following, and specially designed electronic control equipment therefor:

a. A maximum angular travel of ±26 mrad or more,

b. A mechanical resonant frequency of 500 Hz or more; and

c. An angular "accuracy" of 10 µrad (microradians) or less (better);

2. Resonator alignment equipment having bandwidths equal to or more than 100 Hz and an accuracy of 10 µrad or less (better);

(c) Gimbals having all of the following:

1. A maximum slew exceeding 5°;

2. A bandwidth of 100 Hz or more;

3. Angular pointing errors of 200 µrad (microradians) or less; and

4. Having any of the following:

a. Exceeding 0.15 m but not exceeding 1 m in diameter or major axis length and capable of angular accelerations exceeding 2 rad (radians)/s²; or

b. Exceeding 1 m in diameter or major axis length and capable of angular accelerations exceeding 0.5 rad (radians)/s².

Magnetic and electric field sensors

1. "Magnetometers" using superconductive technology (SQUID) and having any of the following:

(a) SQUID systems designed for stationary operation, without specially designed subsystems designed to reduce in-motion noise, and having a "sensitivity" equal to or lower (better) than 50 fT (rms) per square root Hz at a frequency of 1 Hz; or

(b) SQUID systems having an in-motion-magnetometer "sensitivity" lower (better) than 2 pT (rms) per square root Hz at a frequency of 1 Hz and specially designed to reduce in-motion noise;

2. "Magnetometers" using optically pumped or nuclear precession (proton/Overhauser) "technology" having a "sensitivity" lower (better) than 2 pT (rms) per square root Hz at a frequency of 1 Hz;

3. "Magnetic gradiometers" using multiple "magnetometers" specified in the "Magnetic and electric field sensors" section;

4. "Compensation systems" for the following:

(a) "Magnetometers" using optically pumped or nuclear precession (proton/Overhauser) "technology" having a "sensitivity" lower (better) than 20 pT (rms) per square root Hz at a frequency of 1 Hz, and using optically pumped or nuclear precession (proton/Overhauser) "technology" that will permit these sensors to realize a "sensitivity" lower (better) than 2 pT rms per square root Hz.

(b) Underwater electric field sensors having a "sensitivity" lower (better) than 8 nanovolt per meter per square root Hz when measured at 1 Hz.

(c) "Magnetic gradiometers" specified in section 1 "Magnetic and electric field sensors"[xxvi] that will permit these sensors to realize a "sensitivity" lower (better) than 3 pT/m rms per square root Hz.

5. Underwater electromagnetic receivers incorporating "magnetometer" specified by section 1 or 2 "Magnetic and electric field sensors".

Software

"Software" specially designed for the "development" or "production" of items in the "Optics" section.

Technology

"Technology" for the "development" or "production" of any item on this list.

Marine systems, equipment and components

Systems, equipment and components

1. Air independent power systems specially designed for underwater use, as follows:

(a) Brayton or Rankine cycle engine air independent power systems having any of the following:

1. Chemical scrubber or absorber systems, specially designed to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

2. Systems specially designed to use a monoatomic gas;

3. Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; or

4. Systems having all of the following:

a. Specially designed to pressurise the products of reaction or for fuel reformation;

b. Specially designed to store the products of the reaction; and

c. Specially designed to discharge the products of the reaction against a pressure of 100 kPa or more;

2. Diesel cycle engine air independent systems having all of the following:

(a) Chemical scrubber or absorber systems, specially designed to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

(b) Systems specially designed to use a monoatomic gas;

(c) Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; and

(d) Specially designed exhaust systems that do not exhaust continuously the products of combustion;

3. Fuel cell air independent power systems with an output exceeding 2kW and having any of the following:

(a) Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; or

(b) Systems having all of the following:

1. Specially designed to pressurise the products of reaction or for fuel reformation;

2. Specially designed to store the products of the reaction; and

3. Specially designed to discharge the products of the reaction against a pressure of 100 kPa or more;

4. Stirling cycle engine air independent power systems having all of the following:

(a) Devices or enclosures, specially designed for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; and

(b) Specially designed exhaust systems which discharge the products of combustion against a pressure of 100 kPa or more;

5. Pumpjet propulsion systems having all of the following:

(a) Power output exceeding 2.5 MW; and

(b) Using divergent nozzle and flow conditioning vane techniques to improve propulsive efficiency or reduce propulsion-generated underwater-radiated noise.

Software

"Software" for marine systems, equipment, components, test, inspection and "production" equipment and other related technology.

Technology

"Technology" for marine systems, equipment, components, test, inspection and "production" equipment and other related technology.

Aerospace and propulsion

Systems, equipment and components

1. Equipment, tooling or fixtures, specially designed for manufacturing gas turbine engine blades, vanes or "tip shrouds", as follows:

(a) Directional solidification or single crystal casting equipment;

(b) Casting tooling, manufactured from refractory metals or ceramics, as follows:

1. Cores

2. Shells (moulds)

3. Combined core and shell (mould) units

(c) Directional-solidification or single-crystal additive-manufacturing equipment.

Additional items of military significance

1. Body armour and components therefor, as follows:

(a) Soft body armour not manufactured to military standards or specifications, or to their equivalents, and specially designed components therefor;

(b) Hard body armour plates providing ballistic protection equal to or less than level IIIA (NIJ 0101.06, July 2008) or national equivalents.

Note: this paragraph does not apply to body armour when accompanying its user for the user's own personal protection, to body armour designed to provide frontal protection only from both fragment and blast from non-military explosive devices, and to body armour designed to provide protection only from knife, spike, needle or blunt trauma.

2. Accelerometers as follows and specially designed components therefor:

(a) Linear accelerometers having any of the following:

1. Specified to function at linear acceleration levels less than or equal to 15 g and having any of the following:

a. A "bias" "stability" of less (better) than 130 micro g with respect to a fixed calibration value over a period of one year; or

b. A "scale factor" "stability" of less (better) than 130 ppm with respect to a fixed calibration value over a period of one year;

2. Specified to function at linear acceleration levels exceeding 15 g but less than or equal to 100 g and having all of the following:

a. A "bias" "repeatability" of less (better) than 1,250 micro g over a period of one year; and

b. A "scale factor" "repeatability" of less (better) than 1,250 ppm over a period of one year; or

3. Designed for use in inertial navigation or guidance systems and specified to function at linear acceleration levels exceeding 100 g;

Note: paragraphs above do not apply to accelerometers limited to measurement of only vibration or shock.

(b) Angular or rotational accelerometers, specified to function at linear acceleration levels exceeding 100 g.

3. Gyros or angular rate sensors, having any of the following and specially designed components therefor:

(a) Specified to function at linear acceleration levels less than or equal to 100 g and having any of the following:

1. A rate range of less than 500 degrees per second and having any of the following:

a. A "bias" "stability" of less (better) than 0.5 degree per hour, when measured in a 1 g environment over a period of one month, and with respect to a fixed calibration value; or

b. An "angle random walk" of less (better) than or equal to 0.0035 degree per square root hour; or

Note: this paragraph does not apply to "spinning mass gyros".

2. A rate range greater than or equal to 500 degrees per second and having any of the following:

a. A "bias" "stability" of less (better) than 4 degrees per hour, when measured in a 1 g environment over a period of three minutes, and with respect to a fixed calibration value; or

b. An "angle random walk" of less (better) than or equal to 0.1 degree per square root hour; or

Note: this paragraph does not apply to "spinning mass gyros".

(b) Specified to function at linear acceleration levels exceeding 100 g.

4. "Inertial measurement equipment or systems", having any of the following:

Note 1: "Inertial measurement equipment or systems" incorporate accelerometers or gyroscopes to measure changes in velocity and orientation in order to determine or maintain heading or position without requiring an external reference once aligned. "Inertial measurement equipment or systems" include:

– Attitude and Heading Reference Systems (AHRSs);

– Gyrocompasses;

– Inertial Measurement Units (IMUs);

– Inertial Navigation Systems (INSs);

– Inertial Reference Systems (IRSs);

– Inertial Reference Units (IRUs).

Note 2: This paragraph does not apply to "inertial measurement equipment or systems" which are certified for use on "civil aircraft" by civil aviation authorities of one or more Member States.

(a) Designed for "aircraft", land vehicles or vessels, providing position without the use of "positional aiding references", and having any of the following "accuracies" subsequent to normal alignment:

1. 0.8 nautical miles per hour (nm/hr) "Circular Error Probable" ("CEP") rate or less (better);

2. 0.5 per cent distanced travelled "CEP" or less (better); or

3. Total drift of 1 nautical mile "CEP" or less (better) in a 24 hr period;

(b) Designed for "aircraft", land vehicles or vessels, with an embedded "positional aiding reference" and providing position after loss of all "positional aiding references" for a period of up to 4 minutes, having an "accuracy" of less (better) than 10 metres "CEP";

(c) Designed for "aircraft", land vehicles or vessels, providing heading or True North determination and having any of the following:

1. A maximum operating angular rate less (lower) than 500 deg/s and a heading "accuracy" without the use of "positional aiding references" equal to or less (better) than 0.07 deg sec(Lat) (equivalent to 6 arc minutes rms at 45 degrees latitude); or

2. A maximum operating angular rate equal to or greater (higher) than 500 deg/s and a heading "accuracy" without the use of "positional aiding references" equal to or less (better) than 0.2 deg sec (Lat) (equivalent to 17 arc minutes rms at 45 degrees latitude);

(d) Providing acceleration measurements or angular rate measurements, in more than one dimension, and having any of the following:

1. Performance specified for accelerometers and gyros described above along any axis, without the use of any aiding references; or

2. Being "space-qualified" and providing angular rate measurements having an "angle random walk" along any axis of less (better) than or equal to 0.1 degree per square root hour.

5. Manned, tethered submersible vehicles designed to operate at depths exceeding 1,000 m.

6. Aero gas turbine engines, except aero gas turbine engines which meet all of the following:

(a) Certified by civil aviation authorities of one or more Member States; and

(b) Intended to power non-military manned "aircraft" for which any of the following has been issued by civil aviation authorities of one or more Member States for the "aircraft" with this specific engine type:

1. A civil type certificate; or

2. An equivalent document recognized by the International Civil Aviation Organization.

Definitions of terms used in the lists

This document contains the definitions of the terms used in the lists, in alphabetical order.

"Accuracy"

(Usually measured in terms of inaccuracy) is the maximum deviation, positive or negative, of an indicated value from an accepted standard or true value.

"Active flight control systems"

Function to prevent undesirable "aircraft" and missile motions or structural loads by autonomously processing outputs from multiple sensors and then providing necessary preventive commands to effect automatic control.

"Comminution"

A process to reduce a material to particles by crushing or grinding.

"Compensation systems"

Consist of the primary scalar sensor, one or more reference sensors (e.g. vector magnetometers) together with software that permit reduction of rigid body rotation noise of the platform.

"Composite"

A "matrix" and an additional phase or additional phases consisting of particles, whiskers, fibres or any combination thereof, present for a specific purpose or purposes.

"III/V compounds"

Polycrystalline or binary or complex monocrystalline products consisting of elements of groups IIIA and VA of Mendeleyev's periodic classification table (e.g., gallium arsenide, gallium-aluminium arsenide, indium phosphide).

"Contouring control"

Two or more "numerically controlled" motions operating in accordance with instructions that specify the next required position and the required feed rates to that position. These feed rates are varied in relation to each other so that a desired contour is generated (Ref. ISO/DIS 2806 - 1980).

"Critical temperature"

(sometimes referred to as the transition temperature) of a specific "superconductive" material is the temperature at which the material loses all resistance to the flow of direct electrical current.

"Data-Based Referenced Navigation" ("DBRN") Systems

Systems which use various sources of previously measured geo-mapping data integrated to provide accurate navigation information under dynamic conditions. Data sources include bathymetric maps, stellar maps, gravity maps, magnetic maps or 3-D digital terrain maps.

"Development"

Is related to all stages prior to serial production, such as: design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design, layouts.

"Diffusion bonding"

A solid state joining of at least two separate pieces of metals into a single piece with a joint strength equivalent to that of the weakest material, wherein the principal mechanism is interdiffusion of atoms across the interface.

"Electronic assembly"

A number of electronic components (i.e., "circuit elements", "discrete components", integrated circuits, etc.) connected together to perform (a) specific function(s), replaceable as an entity and normally capable of being disassembled.

"Equivalent Density"

The mass of an optic per unit optical area projected onto the optical surface.

"Fibrous or filamentary materials" Include:

(a) Continuous monofilaments;

(b) Continuous yarns and rovings;

(c) Tapes, fabrics, random mats and braids;

(d) Chopped fibres, staple fibres and coherent fibre blankets;

(e) Whiskers, either monocrystalline or polycrystalline, of any length;

(f) Aromatic polyamide pulp.

"Fly-by-light system"

A primary digital flight control system employing feedback to control the aircraft during flight, where the commands to the effectors/actuators are optical signals.

"Fly-by-wire system"

A primary digital flight control system employing feedback to control the aircraft during flight, where the commands to the effectors/actuators are electrical signals.

"Focal plane array"

A linear or two-dimensional planar layer, or combination of planar layers, of individual detector elements, with or without readout electronics, which work in the focal plane.

Note: This definition does not include a stack of single detector elements or any two, three or four element detectors provided time delay and integration is not performed within the element.

"Fractional bandwidth"

The "instantaneous bandwidth" divided by the centre frequency, expressed as a percentage.

"Frequency hopping"

A form of "spread spectrum" in which the transmission frequency of a single communication channel is made to change by a random or pseudo-random sequence of discrete steps.

"Gas atomisation"

A process to reduce a molten stream of metal alloy to droplets of 500 µm diameter or less by a high pressure gas stream.

"Magnetic gradiometers"

Are designed to detect the spatial variation of magnetic fields from sources external to the instrument. They consist of multiple "magnetometers" and associated electronics the output of which is a measure of magnetic field gradient. (See also "Intrinsic Magnetic Gradiometer")

"Magnetometers"

Are designed to detect magnetic fields from sources external to the instrument. They consist of a single magnetic field sensing element and associated electronics the output of which is a measure of the magnetic field.

"Matrix"

A substantially continuous phase that fills the space between particles, whiskers or fibres.

"Mechanical alloying"

An alloying process resulting from the bonding, fracturing and rebonding of elemental and master alloy powders by mechanical impact. Non-metallic particles may be incorporated in the alloy by addition of the appropriate powders.

"Melt extraction"

A process to "solidify rapidly" and extract a ribbon-like alloy product by the insertion of a short segment of a rotating chilled block into a bath of a molten metal alloy.

"Melt spinning"

A process to "solidify rapidly" a molten metal stream impinging upon a rotating chilled block, forming a flake, ribbon or rod-like product.

"Monospectral imaging sensors"

Are capable of acquisition of imaging data from one discrete spectral band.

"Multispectral imaging sensors"

Are capable of simultaneous or serial acquisition of imaging data from two or more discrete spectral bands. Sensors having more than twenty discrete spectral bands are sometimes referred to as hyperspectral imaging sensors.

"Numerical control"

The automatic control of a process performed by a device that makes use of numeric data usually introduced as the operation is in progress (Ref. ISO 2382).

"Plasma atomisation"

A process to reduce a molten stream or solid metal to droplets of 500 µm diameter or less, using plasma torches in an inert gas environment.

"Production"

Means all production stages, such as: product engineering, manufacture, integration, assembly (mounting), inspection, testing, quality assurance.

"Pulse compression"

The coding and processing of a radar signal pulse of long time duration to one of short time duration, while maintaining the benefits of high pulse energy.

"Radar frequency agility"

Any technique which changes, in a pseudo-random sequence, the carrier frequency of a pulsed radar transmitter between pulses or between groups of pulses by an amount equal to or larger than the pulse bandwidth.

"Radar spread spectrum"

Any modulation technique for spreading energy originating from a signal with a relatively narrow frequency band, over a much wider band of frequencies, by using random or pseudo-random coding.

"Radiant sensitivity"

Radiant sensitivity (mA/W) = 0.807 x (wavelength in nm) x Quantum Efficiency (QE)

Technical note

QE is usually expressed as a percentage; however, for the purposes of this formula QE is expressed as a decimal number less than one, e.g., 78 per cent is 0.78.

"Real-time processing"

The processing of data by a computer system providing a required level of service, as a function of available resources, within a guaranteed response time, regardless of the load of the system, when stimulated by an external event.

"Robot"

A manipulation mechanism, which may be of the continuous path or of the point-to-point variety, may use sensors, and has all the following characteristics:

(a) Is multifunctional;

(b) Is capable of positioning or orienting material, parts, tools or special devices through variable movements in three dimensional space;

(c) Incorporates three or more closed or open loop servo-devices which may include stepping motors; and

(d) Has "user-accessible programmability" by means of the teach/playback method or by means of an electronic computer which may be a programmable logic controller, i.e., without mechanical intervention.

Note: The above definition does not include the following devices:

1. Manipulation mechanisms which are only manually/tele-operator controllable;

2. Fixed sequence manipulation mechanisms which are automated moving devices, operating according to mechanically fixed programmed motions. The programme is mechanically limited by fixed stops, such as pins or cams. The sequence of motions and the selection of paths or angles are not variable or changeable by mechanical, electronic or electrical means;

3. Mechanically controlled variable sequence manipulation mechanisms which are automated moving devices, operating according to mechanically fixed programmed motions. The programme is mechanically limited by fixed, but adjustable stops, such as pins or cams. The sequence of motions and the selection of paths or angles are variable within the fixed programme pattern. Variations or modifications of the programme pattern (e.g., changes of pins or exchanges of cams) in one or more motion axes are accomplished only through mechanical operations;

4. Non-servo-controlled variable sequence manipulation mechanisms which are automated moving devices, operating according to mechanically fixed programmed motions. The programme is variable but the sequence proceeds only by the binary signal from mechanically fixed electrical binary devices or adjustable stops;

5. Stacker cranes defined as Cartesian coordinate manipulator systems manufactured as an integral part of a vertical array of storage bins and designed to access the contents of those bins for storage or retrieval.

"Rotary atomisation"

A process to reduce a stream or pool of molten metal to droplets to a diameter of 500 µm or less by centrifugal force.

"Signal processing"

The processing of externally derived information-bearing signals by algorithms such as time compression, filtering, extraction, selection, correlation, convolution or transformations between domains (e.g., fast Fourier transform or Walsh transform).

"Software"

A collection of one or more "programmes" or "microprogrammes" fixed in any tangible medium of expression.

"Source code"

A convenient expression of one or more processes which may be turned by a programming system into equipment executable form ("object code" (or object language)).

"Space-qualified"

Designed, manufactured, or qualified through successful testing, for operation at altitudes greater than 100 km above the surface of the Earth.

Note: A determination that a specific item is "space-qualified" by virtue of testing does not mean that other items in the same production run or model series are "space-qualified" if not individually tested.

"Specific modulus"

Young's modulus in pascals, equivalent to N/m^2, divided by specific weight in N/m3, measured at a temperature of 296 ± 2 K (23 ± 2°C) and a relative humidity of (50 ± 5) per cent.

"Specific tensile strength"

Ultimate tensile strength in pascals, equivalent to N/m^2, divided by specific weight in N/m3, measured at a temperature of 296 ± 2 K (23 ± 2°C) and a relative humidity of (50 ± 5) per cent.

"Splat quenching"

A process to "solidify rapidly" a molten metal stream impinging upon a chilled block, forming a flake-like product.

"Spread spectrum"

The technique whereby energy in a relatively narrow-band communication channel is spread over a much wider energy spectrum.

"Spread spectrum" radar — see "Radar spread spectrum"

"Superconductive"

Refers to materials,(i.e., metals, alloys or compounds) which can lose all electrical resistance (i.e., which can attain infinite electrical conductivity and carry very large electrical currents without Joule heating).

Technical note

The "superconductive" state of a material is individually characterised by a "critical temperature", a critical magnetic field, which is a function of temperature, and a critical current density which is, however, a function of both magnetic field and temperature.

"Superplastic forming"

A deformation process using heat for metals that are normally characterised by low values of elongation (less than 20 per cent) at the breaking point as determined at room temperature by conventional tensile strength testing, in order to achieve elongations during processing which are at least 2 times those values.

"Technology"

Specific information necessary for the "development", "production" or "use" of a product. The information takes the form of "technical data" or "technical assistance".

Technical notes

1. "Technical data" may take forms such as blueprints, plans, diagrams, models, formulae, tables, engineering designs and specifications, manuals and instructions written or recorded on other media or devices such as disk, tape, read-only memories.

2. "Technical assistance" may take forms such as instruction, skills, training, working knowledge, consulting services. "Technical assistance" may involve transfer of "technical data".

"Time constant"

The time taken from the application of a light stimulus for the current increment to reach a value of 1-1/e times the final value (i.e., 63 per cent of the final value).

"Tip shroud"

A stationary ring component (solid or segmented) attached to the inner surface of the engine turbine casing or a feature at the outer tip of the turbine blade, which primarily provides a gas seal between the stationary and rotating components.

"Total control of flight"

Automated control of "aircraft" state variables and flight path to meet mission objectives responding to real time changes in data regarding objectives, hazards or other "aircraft".

"Unidirectional positioning repeatability"

The smaller of values $R\uparrow$ and $R\downarrow$ (forward and backward), as defined by 3.21 of ISO 230-2:2014 or national equivalents, of an individual machine tool axis.

"Use"

Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing.

"User-accessible programmability"

The facility allowing a user to insert, modify or replace "programmes" by means other than:

(a) A physical change in wiring or interconnections; or

(b) The setting of function controls including entry of parameters.

"Vacuum atomisation"

A process to reduce a molten stream of metal to droplets of a diameter of 500 µm or less by the rapid evolution of a dissolved gas upon exposure to a vacuum.

[i] Does not apply to "composite" structures or laminates, made from epoxy resin impregnated carbon "fibrous or filamentary materials", for the repair of "civil aircraft" structures or laminates, having all of the following:

- An area not exceeding 1 m^2;
- A length not exceeding 2.5 m;
- A width exceeding 15 mm.

Does not apply to semi-finished items, specially designed for purely civilian applications as follows: sporting goods, automotive industry, machine tool industry, medical applications. Does not apply to finished items specially designed for a specific application.

[ii] Does not apply to :

- Discontinuous, multiphase, polycrystalline alumina fibres in chopped fibre or random mat form containing 3 per cent by weight or more silica with a "specific modulus" of less than 10×10^6 m
- Molybdenum and molybdenum alloy fibres
- Boron fibres
- Discontinuous ceramic fibres with a melting, softening, decomposition or sublimation point lower than 1,770°C in an inert environment.

[iii] Does not apply to polyethylene.

[iv] Does not apply to:

- "fibrous or filamentary materials", for the repair of civil aircraft structures or laminates, having an area not exceeding 1 m^2; a length not exceeding 2.5 m; and a width exceeding 15 mm.
- Mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length.

[v] Does not apply to discontinuous, multiphase, polycrystalline alumina fibres in chopped fibre or random mat form, containing 3 per cent by weight or more silica, with a "specific modulus" of less than 10×10^6 m; molybdenum and molybdenum alloy fibres; boron fibres; discontinuous ceramic fibres with a melting, softening, decomposition or sublimation point lower than 1,770°C in an inert environment.

[vi] Does not apply to:

- Epoxy resin "matrix" impregnated carbon "fibrous or filamentary materials" (prepregs) for the repair of "civil aircraft" structures or laminates, having all of the following:
- An area not exceeding 1 m^2;
- A length not exceeding 2.5 m; and
- A width exceeding 15 mm

[vii] Unless provision to the contrary is made, the words "metals" and "alloys" cover crude and semi-fabricated forms.

Crude forms: anodes, balls, bars (including notched bars and wire bars), billets, blocks, blooms, brickets, cakes, cathodes, crystals, cubes, dice, grains, granules, ingots, lumps, pellets, pigs, powder, rondelles, shot, slabs, slugs, sponge, sticks. Semi-fabricated forms: Wrought or worked materials fabricated by rolling, drawing, extruding, forging, impact extruding, pressing, graining, atomising, and grinding, i.e.: angles, channels, circles, discs, dust, flakes, foils and leaf, forging, plate, powder, pressings and stampings, ribbons, rings, rods (including bare welding rods, wire rods, and rolled wire), sections, shapes, sheets, strip, pipe and tubes (including tube rounds, squares, and hollows), drawn or extruded wire. Cast material produced by casting in sand, die, metal, plaster or other types of moulds, including high pressure castings, sintered forms, and forms made by powder metallurgy.

[viii] Does not apply to polyethylene.

[ix] Does not apply to:

- "fibrous or filamentary materials", for the repair of civil aircraft structures or laminates, having an area not exceeding 1 m^2; a length not exceeding 2.5 m; and a width exceeding 15 mm.
- Mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length.

[x] Does not apply to discontinuous, multiphase, polycrystalline alumina fibres in chopped fibre or random mat form, containing 3 per cent by weight or more silica, with a "specific modulus" of less than 10×10^6 m; molybdenum and molybdenum alloy fibres; boron fibres; discontinuous ceramic fibres with a melting, softening, decomposition or sublimation point lower than 1,770°C in an inert environment.

[xi] For the purposes of this "tape-laying machines" have the ability to lay one or more "filament bands" limited to widths greater than 25 mm and less than or equal to 305 mm, and to cut and restart individual "filament band" courses during the laying process.

[xii] The technique of interlacing includes knitting.

[xiii] Does not apply to materials specified and packages as medical products.

[xiv] Does not apply to abrasives.

[xv] Does not apply to "composites" containing fibres from these systems with a fibre "tensile strength" of less than 700 MPa at 1,273 K (1,000°C) or fibre tensile creep resistance of more than 1 per cent creep strain at 100 MPa load and 1,273 K (1,000°C) for 100 hours.

[xvi] Applies to the substances in liquid or solid "fusible" form, including resin, powder, pellet, film, sheet, tape, or ribbon.

[xvii] Does not apply to polyethylene.

[xviii] Does not apply to "fibrous or filamentary materials", for the repair of "civil aircraft" structures or laminates, having all of the following:

1. An area not exceeding 1 m^2;
2. A length not exceeding 2.5 m; and
3. A width exceeding 15 mm.

Or to mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length.

[xix] Does not apply to the following:

(a) Discontinuous, multiphase, polycrystalline alumina fibres in chopped fibre or random mat form, containing 3 per cent by weight or more silica, with a "specific modulus" of less than 10×10^6 m;

(b) Molybdenum and molybdenum alloy fibres;

(c) Boron fibres;

(d) Discontinuous ceramic fibres with a melting, softening, decomposition or sublimation point lower than 2,043 K (1,770°C) in an inert environment.

[xx] Does not apply to:

(a) Epoxy resin "matrix" impregnated carbon "fibrous or filamentary materials" (prepregs) for the repair of "civil aircraft" structures or laminates, having all of the following:

1. An area not exceeding 1 m^2;
2. A length not exceeding 2 5 m; and
3. A width exceeding 15 mm.

(b) Fully or partially resin-impregnated or pitch-impregnated mechanically chopped, milled or cut carbon "fibrous or filamentary materials" 25.0 mm or less in length when using a resin or pitch other than those specified previously

[xxi] The metals referred to here also refer to metals or alloys encapsulated in aluminium, magnesium, zirconium or beryllium.

[xxii] Does not apply to technology for the repair of civil aircraft structures using carbon "fibrous or filamentary materials" and epoxy resins, contained in aircraft manufacturers' manuals.

[xxiii] The status of hydrophones specially designed for other equipment is determined by the status of the other equipment.

[xxiv] Accelerometer-based hydro-acoustic sensors having all of the following:

1. Composed of three accelerometers arranged along three distinct axes;

2. Having an overall "acceleration sensitivity" better than 48 dB (reference 1,000 mV rms per 1g);

3. Designed to operate at depths greater than 35 metres; and

4. Operating frequency below 20 kHz.

Note: Does not apply to particle velocity sensors or geophones.

Note: Also applies to receiving equipment, whether or not related in normal application to separate active equipment, and specially designed components therefor

[xxv] Does not apply to monospectral imaging sensors" with a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm and only incorporating any of the following non-"space-qualified" detectors or non-"space-qualified" "focal plane arrays":

(a) Charge Coupled Devices not designed or modified to achieve "charge multiplication"; or

(b) Complementary Metal Oxide Semiconductor devices not designed or modified to achieve "charge multiplication".

[xxvi] Fibre optic "intrinsic magnetic gradiometers" having a magnetic gradient field "sensitivity" lower (better) than 0.3 nT/m (rms) per square root Hz;

"Intrinsic magnetic gradiometers", using "technology" other than fibre-optic "technology", having a magnetic gradient field "sensitivity" lower (better) than 0.015 nT/m (rms) per square root Hz.

United Nations S/2017/761

Security Council

Distr.: General
7 September 2017

Original: English

Report of the Secretary-General pursuant to Security Council resolution 2312 (2016)

I. Introduction

1. The present report is submitted pursuant to paragraph 15 of Security Council resolution 2312 (2016), in which the Council requested me to report on the implementation of the resolution, in particular with regard to the implementation of its paragraph 7.

2. The report covers developments since my previous report, of 7 September 2016 (S/2016/766), until 31 August 2017. The information and observations herein are based on submissions by Member States, regional arrangements and other relevant stakeholders. The United Nations system, the International Criminal Police Organization (INTERPOL) and the Panel of Experts established pursuant to Security Council resolution 1973 (2011) were also consulted.

II. Smuggling of migrants and trafficking in persons in the Mediterranean Sea off the coast of Libya[1]

3. Since the issuance of my previous report, men, women and children have continued to die or go missing at sea on their way to Europe. As at 31 August 2017, the Office of the United Nations High Commissioner for Refugees (UNHCR) and the International Organization for Migration (IOM) had recorded more than 2,410 deaths and disappearances in the Mediterranean Sea and 123,994 arrivals in Europe by sea in 2017. The so-called "central Mediterranean rou.e" from Libya to Italy continues to be the most active migratory route into Europe. In 2016, UNHCR and IOM recorded the arrivals of more than 181,500 people in Italy by sea, 90 per cent of whom had departed from Libya. As at 31 August 2017, some 99,105 people, originating largely from sub-Saharan African countries, had arrived in Italy in 2017.

4. The European Union naval operation (EUNAVFOR MED operation Sophia) has reported that, since the beginning of its mission in June 2015, and until 31 August 2017, the operation has rescued 39,818 persons in the southern central Mediterranean. The operation estimates that since October 2016 around 140,210 persons have been rescued by different vessels in the central Mediterranean Sea.

[1] Referred to herein as "smuggling and trafficking".

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5. According to EUNAVFOR MED operation Sophia, vessels operated by international non-governmental organizations conducted search and rescue operations just outside the Libyan territorial waters limit of 12 nautical miles. Some officials in Europe opined that search and rescue operations to prevent loss of life at sea could present a dilemma, by acting as a pull factor to those crossing irregularly and facilitating the task of smugglers who only require their vessels to reach the high seas. Push and pull factors and the operational context across the Mediterranean remain complex and a strictly evidence-based approach to the issue is needed. It is of paramount importance to underline that the first priority must always be to save lives and that the presence of search and rescue operations has undoubtedly prevented countless deaths.

6. As at 19 July 2017, IOM estimates that 11,122 persons have been intercepted and rescued by the Libyan Coastguard, coastal security and fishermen in 2017, while 348 human remains were retrieved along Libyan shores. The Office of the United Nations High Commissioner for Human Rights (OHCHR) expressed concern about abuses and violations against such persons by the Libyan Coastguard during search and rescue operations, which, in some instances, further endanger the lives of people in distress at sea. Intercepted or rescued migrants are rarely provided with life jackets. The United Nations Support Mission in Libya (UNSMIL) has documented the use of firearms, physical violence and threatening language by Coastguard officials during search and rescue operations, within and beyond the territorial sea of Libya, that induce panic among people in unseaworthy vessels seeking assistance. Other recorded behaviour includes jumping on board migrant vessels without warning, and colliding with vessels in distress. Such acts risk capsizing already unseaworthy boats and cause panic among people in distress, some of whom jump into the water without life jackets. According to UNSMIL and OHCHR, immediately following rescues or interceptions at sea, Coastguard officials routinely fail to identify and meet the specialized needs of migrants and asylum seekers in vulnerable situations, including pregnant women, unaccompanied minors, and those with disabilities or pre-existing medical conditions.

7. Organized transnational criminal networks continued to exploit the conflict and security situation in Libya to conduct their smuggling and trafficking operations, which in turn has fuelled instability and undermined governance structures. Existing networks that are used for the smuggling of migrants and refugees, as well as smuggling infrastructure and logistics, may also be used to clandestinely transport illicit goods such as fuel, drugs or weapons. The Panel of Experts established pursuant to Security Council resolution 1973 (2011) has also separately reported to the Security Council, under its mandate, on the different illicit sources of financing, such as the smuggling of migrants, arms and fuel, by armed groups and criminal networks in Libya (see S/2017/466). The Libya sanctions regime, in particular its arms embargo, the measures aimed at preventing illicit exports of petroleum, including crude oil and refined petroleum products, and the sanctions designation criteria, may apply to the acts and activities of smugglers and traffickers.

8. According to EUNAVFOR MED operation Sophia, individual fares on an inflatable boat can reach €1,000, while reports on the cost of travel on a wooden boat range from €1,500 to €3,000, depending on their size and the number of persons on board. Each rubber boat can accommodate approximately 120 persons, allowing migrant smugglers to make illicit gains of up to €120,000 for each rubber boat launched. Using larger wooden boats typically embarking 400 persons, it is estimated that migrant smugglers and traffickers could earn between €600,000 and €1.2 million per vessel. Smugglers generally conduct launches of up to five or more vessels at once.

9. The loss of life at sea is largely attributed to the use by smugglers of unseaworthy and overcrowded vessels that lack the capacity to reach European shores. The smugglers continue to profit from migrants seeking to reach Europe and to benefit from the dearth of safe and regular pathways for migration, as well as taking advantage of the desperation of those fleeing from conflict or persecution. Women and girls, and also men and boys, experience serious human rights abuses, including sexual violence at the hands of smugglers, traffickers and other criminal groups in and en route to Libya.

10. In resolution 2312 (2016), the Security Council recognized that among those being smuggled in the Mediterranean, in particular off the coast of Libya, there may be persons who meet the definition of a refugee under the 1951 Convention relating to the Status of Refugees and the 1967 Protocol thereto, and stressed that the rights of migrants and asylum seekers must be respected under international human rights and refugee law. According to Eurostat data for persons arriving in Italy in 2016 from the seven most common source countries in West Africa (Nigeria, Guinea, Côte d'Ivoire, the Gambia, Senegal, Mali and Ghana), the average grant rate of some form of protection was 27 per cent, and among those arriving from Eritrea, Somalia and the Sudan, 70 per cent. This amounted to more than 68,500 nationals of those countries being granted protection in the European Union member States in 2016, including over 54,000 granted refugee status or subsidiary protection. The routes and the composition of groups arriving remain in flux and include persons in vulnerable situations, the majority of children arriving unaccompanied.

11. Since the adoption of Security Council resolution 2312 (2016), Member States have, unilaterally, bilaterally and multilaterally, including through regional organizations, taken measures to counter smuggling and trafficking off the coast of Libya and to strengthen search and rescue efforts in the Mediterranean Sea. These include the strengthening of border control agencies and border management through capacity-building and training, along with targeted deployment of naval assets and operations in the Mediterranean Sea.

III. Inspection and seizure of vessels off the coast of Libya and related efforts

12. As part of efforts to prevent and combat smuggling of migrants and trafficking in persons off the coast of Libya, Member States, both nationally or through regional organizations, have inspected and seized vessels under applicable international law and in the exercise of the specific authority provided through resolution 2312 (2016). States members of the European Union, with the exception of Denmark, are carrying out the naval operation EUNAVFOR MED operation Sophia in the central part of the southern Mediterranean Sea to identify, capture and dispose of vessels and assets used or suspected of being used by smugglers. In addition, in 2016/17 the operation trained 133 members of the Libyan Coastguard and Libyan Navy in coastguard functions, such as maritime law enforcement, and safe search and rescue operations, as well as human rights issues, aimed at ensuring better compliance with applicable human rights standards. The operation is also providing non-military training to enable Libyan Coastguard and Libyan Navy personnel to disrupt all kinds of illicit traffic and to save lives in the territorial sea of Libya. Experts provided by European Union member States, UNHCR, IOM, UNSMIL and the European Union Border and Coastguard Agency (Frontex), among other actors, supported the training.

13. On 25 July 2017, the Council of the European Union extended the mandate of the operation until 31 December 2018, entrusting the operation with additional

tasks, namely, to set up a monitoring mechanism of trainees to ensure the long-term efficiency of the Libyan Coastguard training, as recommended by OHCHR and UNSMIL in their report of 13 December 2016; to enhance the possibilities for sharing information on trafficking in persons with European Union member States' law enforcement agencies, Frontex and Europol; and to conduct new surveillance activities and gather information on illegal trafficking of oil exports from Libya in accordance with Security Council resolutions 2146 (2014) and 2362 (2017). In resolution 2362 (2017) the Council extended sanctions on illegal oil exports from Libya to include refined petroleum products, the smuggling of which also facilitates migrant smuggling and trafficking in persons.

14. On 4 July 2017, the Italian National Anti-Mafia Prosecutor and the Commander of EUNAVFOR MED operation Sophia launched the first European Observatory on Migrant Smuggling and Human Trafficking. To further assist in the investigation and prosecution of persons responsible for acts of smuggling and trafficking at sea, EUNAVFOR MED operation Sophia cooperates closely with, and provides information to, the Italian authorities, which exercise criminal jurisdiction. As at 31 August 2017, 117 persons suspected of the smuggling of migrants or facilitating such smuggling have been arrested or are being investigated by Italian authorities as a result of information provided, or action taken, by the operation. The operation reported that it has also disposed of 477 vessels by towing or transporting the vessels to Italy, whenever possible, in view of the potential added value to investigations and prosecutions. Otherwise, it disposed of them in line with relevant international law and standards, to avoid any risk to the safety of seafarers, navigation and the marine environment.

15. International law requires the disembarkation of persons rescued at sea to a place of safety. According to the European Union, no person rescued or apprehended by EUNAVFOR MED operation Sophia may be handed over to the authorities of non-European Union member States or disembarked in such States. The operation has issued a number of standard operating procedures on preventing sexual exploitation and abuse, disposal of vessels in compliance with environmental law, the treatment of persons rescued at sea, and the handling of suspected migrant smugglers and human traffickers. Particular attention is paid to vulnerable individuals, such as injured or sick persons, women and unaccompanied children. EUNAVFOR MED operation Sophia is in touch with the International Criminal Court, in order to share information relating to crimes against migrants in Libya and individuals involved in facilitating and financing illegal migration through Libya.

16. On 24 November 2016, EUNAVFOR MED operation Sophia signed a cooperation and information-sharing agreement with the United Nations Office on Drugs and Crime (UNODC), aimed at the identification and analysis of organized crime groups involved in the smuggling of migrants and trafficking in persons, in order to disrupt their business model. Meanwhile, contacts with INTERPOL were enhanced and a working arrangement agreed for enhancing cooperation and exchanging information with the Italian National Central Bureau. At the operational level, the Frontex operation Triton remains a key interlocutor for operation Sophia. EUNAVFOR MED operation Sophia seeks to deconflict its operations with the Libyan Coastguard and the Italian naval operation, Mare Sicuro, by exchanging information on a case-by-case basis. Since 2015, Mare Sicuro has been conducting maritime security operations in the central Mediterranean Sea, performing, inter alia, the task of deterring and countering criminal organizations carrying out illicit trafficking. On 30 May 2017, an administrative arrangement was signed with the Allied Maritime Command of the North Atlantic Treaty Organization (NATO) on cooperation between EUNAVFOR MED and operation Sea Guardian.

17. Broader cooperation is continuing between EUNAVFOR MED operation Sophia, international organizations, including the United Nations and its agencies, shipping companies, Member States and non-governmental organizations under the "Shared awareness and deconfliction in the Mediterranean" forum that was established by the operation in 2015. The forum gathers representatives from interested States and organizations involved in maritime security operations in the Mediterranean on a voluntary basis to exchange information and to coordinate and deconflict their activities. On 8 and 9 June 2017, EUNAVFOR MED hosted the fourth such forum, which was attended by 188 participants from 37 countries and 98 organizations.

IV. Support to Libya and related efforts to combat smuggling and trafficking

18. The Security Council, in its resolution 2312 (2016), called upon Member States to assist Libya, upon request, in building needed capacity to secure its borders and to prevent, investigate and prosecute acts of smuggling and trafficking through its territory and in its territorial sea.

19. On 25 January 2017, the joint communication of the European Commission and the High Representative of the European Union for Foreign Affairs and Security Policy on the central Mediterranean route, reaffirmed by the Malta Declaration on 3 February 2017, identified a set of priorities for 2017, with a specific focus on migration and refugee protection-related projects in Libya and North Africa. These include enhancing the combating of smuggling and trafficking networks along the migration routes, helping to manage migratory flows more effectively, saving lives, and improving the living conditions of refugees and migrants. As a first step, the European Union Trust Fund for Africa approved a €90 million programme consisting of two components: first, access to protection and assistance for all those in need, with the aim of expanding the protection space in Libya, focusing specifically on refugees and migrants — to be implemented by IOM, UNHCR and the United Nations Children's Fund (UNICEF); and second, stabilization, aimed at supporting local governance and socioeconomic development at the municipal level, in order to better integrate migrants and stabilize host communities — implemented by UNDP, the German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit), IOM and UNICEF. On 28 July, the European Union Trust Fund for Africa adopted a programme of €46 million to strengthen border controls in Libya. In addition to these common efforts, the European Union and its member States continue to cooperate with IOM, UNHCR and other actors. Activities range from immediate humanitarian assistance, and the protection of refugees and migrants in vulnerable situations, to mapping and analysing migratory and displacement trends and patterns in Libya, as well as work on voluntary humanitarian returns from Libya to countries of origin.

20. On 19 June, the Foreign Affairs Council of the European Union confirmed its commitment to engage with the Group of Five for the Sahel (G-5 Sahel) (Burkina Faso, Chad, Mali, Mauritania and Niger) on migration in line with the five pillars of the Valletta Action Plan and the Partnership Framework. In particular, it expressed support for initiatives aimed at combating the smuggling of migrants and trafficking in persons, together with efforts to provide economic alternatives to communities along the main routes, monitoring possible alternative routes, and addressing the root causes of irregular migration and forced displacement. The regional approach also builds on cooperation within the G-5 Sahel. For instance, the G-5 joint force for securing sensitive border regions was at the heart of the third European Union-G-5 Sahel ministerial meeting held on 6 June 2017 in Bamako, where the European

Union announced a financial contribution of €50 million in support of such cooperation. The joint force will help to combat terrorism, organized cross-border crime and trafficking in persons.

21. On 4 July, the European Commission proposed an action plan to support Italy by reducing pressure along the central Mediterranean route. The action plan also foresees increased funding to enhance the capacity of the Libyan authorities to improve coordination of search and rescue activities, and to strengthen border controls in Libya.

22. On 17 July 2017, the Foreign Affairs Council of the European Union extended the mandate of the European Union Integrated Border Management Assistance Mission (EUBAM) in Libya until 31 December 2018. The Mission is planning for a possible future European Union engagement in the areas of advice and capacity-building on matters of, inter alia, criminal justice, migration and smuggling and trafficking, in support, and at the request, of Libya. EUBAM is currently in the process of establishing a light presence in Tripoli. The Foreign Affairs Council also introduced restrictions on the export and supply of inflatable boats and outboard motors to Libya.

23. The NATO maritime security operation "Sea Guardian" is currently performing three tasks in the Mediterranean Sea: providing support to maritime situational awareness, assisting with counter-terrorism at sea, and contributing to maritime security capacity-building. Through this, NATO is contributing to the maintenance of a secure and safe maritime environment, while supporting the Alliance's three core tasks: collective defence, crisis management and cooperative security.

24. The United Nations system and other entities also support the Government of National Accord and cooperate with those Member States providing assistance to Libya. In 2017, Canada contributed $1.5 million to the stabilization facility for Libya, administered jointly by the United Nations Development Programme and the Government of National Accord.

25. UNSMIL monitors the situation of migrants, including during and after interception and during detention, and has been raising its concerns with relevant interlocutors, including the Libyan Coastguard, the Libyan Directorate for Combating Illegal Migration and the European Union, urging an end to widespread and grave abuses. UNSMIL has provided gender awareness training to the Libyan Coastguard under the training programme of the EUNAVFOR MED operation Sophia. UNSMIL has also been reviewing its support to the Libyan Coastguard in line with the United Nations human rights due diligence policy on United Nations support to non-United Nations security forces. Since 2015, OHCHR and UNHCR have organized training sessions for the staff of European Union naval ships in the Mediterranean Sea on human rights in law enforcement, the protection and human rights of refugees and migrants, and the standards of treatment for all those rescued or intercepted at sea. UNHCR has also contributed to training for the Libyan Coastguard organized by EUNAVFOR MED operation Sophia.

26. In 2017, IOM has provided a series of training courses on human rights, human trafficking and smuggling, identification of vulnerabilities, and other humanitarian topics to Libyan officials. IOM, the Danish Refugee Council and UNHCR have promoted alternatives to detention among the Libyan authorities. Following the intervention of UNHCR, a total of 376 refugees and asylum seekers have been released so far in 2017, in addition to 600 in 2016. A series of workshops and discussions with the Libyan authorities, such as the Ministry of the Interior and the Ministry of Justice, have been held in this regard. However, more needs to be done to ensure that victims of trafficking, sexual and gender-based violence and

other serious human rights abuses are promptly identified and cared for and that age- and gender-sensitive services are provided to them.

27. UNHCR and IOM have held a number of technical consultations and capacity-building activities with the Libyan Coastguard, coast security, the Libyan Directorate for Combating Illegal Migration, and non-governmental organizations to consider issues relating to rescue at sea and the treatment of those rescued or intercepted upon disembarkation. These include establishing a mechanism to enhance communication and facilitate cooperation between the Libyan authorities and international and non-governmental organizations, in order to strengthen responses to situations of distress at sea and enhance predictability in the provision of humanitarian assistance and support upon disembarkation of persons rescued at sea. This mechanism has been reinforced in a standard operating procedure developed by the Technical Working Group consisting of Libyan authorities with support from IOM and UNHCR.

28. As part of a comprehensive approach to migration management, IOM carries out voluntary humanitarian return activities under several projects in Libya. As at 14 August 2017, 6,321 migrants have been assisted to return to their countries of origin by IOM. These include the orderly and humane return and reintegration of stranded migrants who are unable or unwilling to remain in host countries experiencing conflict or natural disaster, and who wish to return voluntarily to their countries of origin. IOM is also delivering tailored assistance to victims of trafficking and unaccompanied migrant children before they return to their countries of origin by providing shelter assistance, family tracing and medical support as well as reintegration assistance upon arrival.

29. UNHCR, with support from Member States, has significantly scaled up its operations in Libya and reinforced its response within a comprehensive regional strategy to mitigate protection risks along main migratory routes. In Libya, UNHCR identifies, registers and documents people in need of international protection, provides life-saving humanitarian assistance and seeks comprehensive solutions for the most vulnerable, whether at disembarkation points, detention facilities or through community development centres. UNHCR is engaging with Libyan authorities to promote the progressive development of a national protection framework and advocate for alternatives to detention. UNHCR also provides assistance to internally displaced persons, returnees and host communities, including through quick-impact projects and the delivery of humanitarian aid through local partners. In August 2017, UNHCR signed an agreement with the United Nations Population Fund for a population and city profiling exercise to generate area-based analysis to inform humanitarian stabilization efforts and recovery interventions. On a regional level, UNHCR is engaging with officials from neighbouring countries to develop protection solutions, including emergency transit facilities for refugees with specific needs and vulnerabilities.

V. International efforts to combat smuggling and trafficking

30. At the international level, the United Nations cooperates with and supports the efforts of Member States to counter smuggling and trafficking. The New York Declaration for Refugees and Migrants, adopted by the General Assembly on 19 September 2016, commits the international community to developing a global compact for safe, orderly and regular migration by 2018. As set out in annex II to the Declaration, the global migration compact will deal with international migration "in all its dimensions". My Special Representative for International Migration leads the efforts of the United Nations system in this regard, closely supported by IOM.

As part of the preparations, six informal thematic sessions are being held in Geneva (3), New York (2) and Vienna (1) between May and October 2017, along with regional and multi-stakeholder consultations. Following a stocktaking phase, Member States will begin to negotiate the global compact in February 2018. The New York Declaration further calls on States to consider developing non-binding voluntary guidelines for the protection of migrants in vulnerable situations.

31. The New York Declaration also commits States to the development of a global compact on refugees in consultation with States and all relevant stakeholders. Annex I to the Declaration is the comprehensive refugee response framework, which outlines the elements of a comprehensive response to refugee displacement based on principles of international cooperation and responsibility-sharing. In the Declaration UNHCR is called upon to develop and initiate the application of the framework in specific situations, which is now under way in a number of countries. The United Nations High Commissioner for Refugees is also requested to propose a global compact on refugees in his annual report to the General Assembly in 2018.

32. On 20 December 2016, the Security Council unanimously adopted resolution 2331 (2016), in which it condemned in the strongest terms trafficking in persons in areas affected by armed conflicts, and stressed that trafficking in persons undermines the rule of law and contributes to other forms of transnational organized crime, which can exacerbate conflict, foster insecurity and instability, and undermine development. The Council stressed that trafficking in persons in armed conflict and sexual and gender-based violence in conflict, including for the purposes of sexual slavery, sexual exploitation and forced labour, can be part of the strategic objectives and ideology of, and be used as a tactic by, certain terrorist groups. The Council encouraged Member States to consider that trafficking in persons in armed conflict in all its forms, including sexual violence in conflict, can cause large movements of refugees and migrants, and recognized that persons displaced by armed conflict, including refugees, can be especially vulnerable to trafficking. Member States that participated in the open debate recognized that human trafficking in conflict areas was a threat to international peace and security and that, since it was also used to finance the activities of terrorist groups, financial flows should be analysed and targeted sanctions imposed on individuals and groups that committed the crime of human trafficking.

33. The General Assembly has also continued to provide policy guidance, in its annual resolutions on oceans and the law of the sea, on the issue of migration by sea. Apart from mandating the duty to render assistance and establish and improve their search and rescue capabilities, in accordance with the United Nations Convention on the Law of the Sea and other relevant and applicable international instruments, the law of the sea also engages States' responsibilities to address, to the extent feasible, the issue of unseaworthy ships and small craft within their national jurisdiction, and to detect and suppress transnational organized criminal activities, including the smuggling of migrants and trafficking in persons. The Assembly has continued to underscore the need to develop comprehensive approaches to international migration through enhanced international cooperation at all levels and the importance of full respect for the principle of non-refoulement in accordance with applicable international law.

34. In May 2017, UNODC organized a regional workshop in Malta for judges and prosecutors on strengthening judicial cooperation against the smuggling of migrants in the Mediterranean, which was also attended by magistrates and officials from the national authorities responsible for international cooperation from coastal States of the Mediterranean Sea basin, including Libya. In implementing its strategy to address the smuggling of migrants across the Mediterranean, and within the framework of the UNODC-European Union Global Action to Prevent and Address

Trafficking in Persons and the Smuggling of Migrants (2015-2019), UNODC cooperated with Egypt and Morocco to assess their responses and assisted Egypt in the development of its new law against smuggling of migrants, which was promulgated on 7 November 2016. With regard to enhancing national capacity and legislative frameworks, around 15 capacity-building activities were undertaken by UNODC in North Africa and the Middle East in 2016 and 2017, including in countries constituting transit points located on the Mediterranean coast. In addition, UNODC trained 24 Libyan officials in Tunisia in February 2017 on legislative frameworks, the prosecution of migrant smuggling cases, as well as the rights and protection needs of asylum seekers and refugees, so as to enhance the country's capacities to deal with and prevent migrant smuggling. UNODC also supports countries of origin and transit along the route to the Mediterranean coast. In East Africa, UNODC has provided capacity-building assistance to criminal justice professionals on investigating and prosecuting human trafficking and migrant smuggling cases; legislative assistance has been provided to Somalia, and initial capacity-building activities are being rolled out with the Government of Eritrea. In West Africa, UNODC is supporting police and gendarmerie training institutes in several Member States in order to integrate modules on smuggling and trafficking into national training curricula, and works on strengthening the capacity of prosecutors from West Africa to cooperate in migrant smuggling cases happening along this route. These activities are implemented within the framework of the UNODC regional strategy for combating trafficking and smuggling in West and Central Africa, covering the period 2015-2020.

35. UNODC regional programmes, strategies and dedicated projects also supported Member States globally. Among them, from June 2016 to July 2017, more than 20 major technical assistance activities provided support to some 70 countries and trained in excess of 770 criminal justice practitioners and government officials in effectively preventing and prosecuting trafficking and smuggling. UNODC further assists Member States in countering the business model of organized criminal groups by enhancing their capacities to trace, freeze and confiscate proceeds acquired through smuggling and trafficking, together with strengthening the coordination and sharing of information among relevant agencies.

36. UNHCR is involved, both globally and across the Mediterranean, in enhancing State capacity to prevent persons under its mandate from falling victim to human trafficking. As part of its efforts, UNHCR supports national authorities in building fair and efficient asylum procedures, and establishing or maintaining protection-sensitive entry systems that include adequate identification and referral mechanisms to, inter alia, ensure that asylum seekers and refugees at risk, or who are victims of trafficking, are identified and referred to UNHCR and provided with protection and access to solutions. UNHCR implements these and other activities under its Strategy and Regional Plan of Action on Smuggling and Trafficking from the East and Horn of Africa Region, as well as through participation in regional consultative processes such as the Rabat and Khartoum Processes and the African Union-Horn of Africa Counter-Trafficking Initiative. In July 2017, UNHCR launched two supplementary appeals to enhance its operational capacity in Libya and in countries along the central Mediterranean route. Among initiatives detailed within the two appeals, UNHCR plans to identify opportunities to scale up the resettlement of vulnerable refugees from Libya, increase the scope of humanitarian interventions for refugees and internally displaced persons in the country, and provide effective ways and means to protect refugees and asylum seekers in countries along the routes leading to Libya.

37. In 2016, OHCHR conducted monitoring missions to transit and border locations in Europe in order to monitor and identify the human rights protection

gaps faced by migrants in transit and at destination, including migrants who had crossed to Europe from Libya.

38. The International Maritime Organization (IMO) maintains that the international legal framework for the rescue of persons at sea is sound but did not envisage, nor was designed for, large movements of refugees and migrants by sea. Although IMO, UNHCR and the International Chamber of Shipping have developed guidance on rescue and on large-scale rescue operations at sea, IMO member States maintain that managing the situation ashore before migrants are subjected to danger at sea, and addressing the root causes of unsafe mixed migration by focusing on creating conditions for increased employment, prosperity and stability by enhancing the maritime sector and sustainable blue economy in developing countries, is the key to the issue.

39. INTERPOL assists Libya within its project on vulnerable communities, which comprises elements on migrant smuggling, trafficking in persons and crimes against children and covers North African countries, including Libya. The project aims to enhance the skills and expertise of law enforcement and other criminal justice practitioners, build and consolidate global networks of experts against people smuggling, and conduct operations based on improved skills and best practices. In May 2017, three police officers from Libya participated in a one-week training course in Madrid.

VI. Key issues

40. Throughout their journey, before and after they cross the Mediterranean Sea, men, women and children are at high risk of abuses. According to OHCHR and UNSMIL, migrants and refugees rescued or intercepted at sea by the Libyan Coastguard off the coast of Libya are handed over to the Directorate for Combating Illegal Migration, where they reportedly face indefinite detention in dire and inhumane conditions without the possibility of judicial review.

41. In detention facilities, controlled by either the Directorate for Combating Illegal Migration or directly by armed groups, migrants and refugees are at significant risk of torture and other ill-treatment, forced labour, sexual violence and exploitation. Detainees are also at risk of being forcibly returned to their country of origin or a third country without any due process or consideration of their individual circumstances. Women and girls are particularly vulnerable to sexual violence and exploitation at the hands of officials, members of armed groups, smugglers and traffickers.

42. The conditions of detention in most facilities are characterized by chronic severe overcrowding, poor hygiene, and a lack of access to basic necessities or adequate medical care. Undernutrition in adults and children is rampant, particularly in facilities outside Tripoli. In some facilities, the conditions of detention in themselves may amount to torture or other ill-treatment. Detainees are commonly denied the opportunity to communicate with their relatives and severe delays in visits by consular representatives have been reported.

43. Outside of the context of detention, refugees and migrants also face exploitation, abduction, forced labour, extortion, torture including to death, and other violence while in Libya. Hospitals and morgues across Libya routinely receive bodies of migrants from sub-Saharan Africa, uncovered in the desert, forests and streets. Some bear gunshot wounds; others seemingly died as a result of thirst or suffocation. IOM has reported cases of persons from sub-Saharan Africa detained by armed groups in so called "connection houses" before they are sold to traffickers.

Operations to counter smuggling must ensure that effective police and criminal justice protection is provided to all persons and that their rights are ensured.

44. The precarious situation of migrants and refugees in Libya is aggravated by the conflict and insecurity in Libya, where criminal groups exploit the security situation while the process of national reconciliation continues. Addressing the perilous situation for migrants and refugees in Libya thus requires addressing the very reasons for their insecurity — both in terms of the push factors, including poverty and conflict in their home countries, and in terms of the context in Libya itself, where the Libyan political process lacks a broad base of support and progress remains stalled. In order to successfully work towards sustainable peace and security, there must be a renewed push for convergence among international, regional and domestic actors, including civil society, women and youth. The conflict and violence in Libya have resulted in a high number of internally displaced persons. According to IOM, as at 29 June 2017, some 240,000 persons are internally displaced in Libya. Some 249,300 who were previously displaced have returned to their homes. Despite the impact of conflict on civilians, only a limited number of Libyans have to date sought protection abroad as refugees.

45. As noted in my previous report, Libya is still not party to the 1951 Convention relating to the Status of Refugees. It is, however, a signatory to the Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, of 1969. Despite this, it has yet to adopt asylum legislation or establish asylum procedures. Libya is also a party to the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, although it has not reported to the Committee on Migrant Workers since ratification — the initial report has been due since 2005. Under Libyan law, all irregular entry, stay or departure is criminalized. There are several laws and decrees that regulate immigration in Libya, but no cohesive legal framework on migration management, including smuggling and trafficking, is currently in place. OHCHR and UNSMIL called on Libyan authorities to release the most vulnerable migrants held in detention, to end the detention of all migrants, and to amend Libyan legislation to decriminalize irregular migration.

46. When men, women and children are intercepted or rescued off the coast of Libya, it is of the utmost importance to ensure their continued security and safety, as required by international law, including the prohibition of refoulement. UNHCR has urged States to refrain from returning to Libya any third-country nationals intercepted or rescued at sea, and to ensure that those in need of international protection are able to gain access to fair and effective asylum procedures upon disembarkation. UNHCR does not consider that Libya currently meets the criteria to be designated as a place of safety for the purpose of disembarkation following rescue at sea.

47. In the light of the continuing human rights violations and abuse that men, women and children on the move face in Libya, there is particular concern over the lack of systematically integrated human rights monitoring and reporting mechanisms by the Libyan Coastguard and other State actors dealing with migrants and refugees, as well as limited access available to the United Nations and non-governmental organizations to conduct independent human rights monitoring.

48. According to IMO, large-scale migration by sea presents a range of challenges to the maritime sector and seafarers. More than 80 per cent of global trade moves by sea, so that any disruption to the maritime part of the supply chain constitutes a risk to national and regional economies. Despite the welcome increase in government-funded resources and the activity of non-governmental organization vessels, the number of merchant ships involved in rescue operations has remained relatively

constant since 2015, and the average number of persons rescued by each merchant ship remains over 110. In 2016, a total of 381 merchant ships were diverted; of those, 121 were involved in the rescue of 13,888 people. Merchant seafarers continue to bravely perform their duties of rescue, although the presence of untrained and distressed persons on board presents risks to both the seafarers and those they rescue.

49. Smuggling and trafficking also have an impact on the fisheries sector in Libya, particularly fishing fleet operations. According to the Food and Agriculture Organization of the United Nations, the negative effects on the fisheries sector tend to occur when vessels are scuttled, breaching international environmental conventions.

VII. Observations

50. I highly commend the invaluable search and rescue efforts of the brave men and women who risk their lives to save others, as part of national authorities, the merchant fleet, civil society or the communities along the shores of the Mediterranean Sea, including EUNAVFOR MED operation Sophia. I remain deeply concerned at the high number of men, women and children who die or go missing in the Mediterranean Sea. Some Member States shoulder disproportionate responsibility in managing the situation and I appeal to countries in the developed world to show much stronger solidarity with countries of first asylum and transit. The need for safe passage and protection has to be met, rooted in cooperation among countries of origin, transit and destination and based on international solidarity. In this respect, it is also important to underline the necessity of constructive engagement with non-governmental organizations, taking into account their important contribution to these efforts.

51. Efforts to counter smuggling and trafficking must be embedded in cooperative global efforts that respond to displacement and migration by addressing their structural drivers, in particular in countries of origin. In the New York Declaration for Refugees and Migrants, adopted on 19 September 2016 at the high-level plenary meeting of the General Assembly, Member States favoured an approach to addressing protracted crises that would reduce vulnerability, combat poverty, and improve self-reliance and resilience. It is crucial to prevent and resolve these crises without further delay. Prevention means early action and requires inclusive and sustainable policies. Failure to act early multiplies suffering, while continued displacement exacerbates the political tensions that need to be overcome. Addressing the root causes in the countries of origin that compel so many people to take this dangerous journey requires strengthening democracy; building stronger, more resilient and accountable State institutions; ensuring adequate checks and balances; supporting inclusive and sustainable economic development; promoting the rule of law; and working to establish effective democratic control over the armed forces.

52. Despite laudable progress in democratic consolidation, the security situation in West Africa and the Sahel, exacerbated by terrorism and violent extremism, remains a cause for concern. These factors, combined with climate change, an increase in the population of young people and unemployment and unchecked urbanization, constitute some of the key drivers underpinning the surge in irregular migration and trafficking in persons. Future action should therefore also focus on tackling people smuggling in source and transit countries in compliance with international human rights standards, and supporting sustainable economic development and good governance. The 2030 Agenda for Sustainable Development provides a critical framework for understanding and organizing efforts that would sustain peace and

minimize the drivers of irregular migration. Furthermore, the implementation of targets, such as ending violence and discrimination, combating all forms of organized crime and trafficking, promoting the rule of law, and ensuring equal access to justice for all, will help to address the root causes of forced displacement.

53. I urge the Government of National Accord to improve the protection and conditions for refugees and migrants in Libya, in particular to ensure that people are placed in detention only in accordance with international standards and due process of law, in conditions allowing for basic standards and needs to be met, and in parallel to efforts to put in place adequate reception conditions and alternatives to detention with a priority on the release of those most vulnerable. I also call upon it to effectively implement the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, and to report regularly on the implementation, and also to consider acceding to other relevant international instruments, including the 1951 Convention relating to the Status of Refugees and the 1967 Protocol thereto, adopting an asylum framework and decriminalizing irregular migration.

54. I call on destination countries beyond Libya to ensure that any training provided to Libyan institutions that engage with migrants and refugees is accompanied by careful vetting and comprehensive efforts to protect their human rights, including efforts to end the practice of their arbitrary detention, improve their treatment in detention, and establish post-training monitoring mechanisms. I appeal to Member States to manage their borders in a protection-sensitive way, not to refuse entry to those seeking asylum and those who are in need of protection under international human rights and refugee law, not to send any person back to a place where they might face persecution, torture, arbitrary detention and other human rights violations, to increase resettlement quotas and other pathways to protection, to grant international protection to those fleeing persecution, armed conflict or violence, as well as to grant appropriate forms of protection to migrants in vulnerable situations. All measures to counter smuggling and trafficking have to be carried out in full respect of international human rights law. I commend Member States for providing support to build the capacity of the Government of National Accord to prevent the proliferation of smuggling and trafficking, including at sea. Such capacity-building efforts have to include support for ensuring the protection of human rights of asylum seekers, refugees and migrants after their interception at sea, including through the establishment of a coordinated monitoring mechanism.

55. In all efforts to prevent and counter smuggling and trafficking, it is of the utmost importance to adopt policies and processes that are sensitive to the immediate needs of all persons who have been exposed to physical or psychological danger during their journey, whether by land or by sea, and regardless of their status. Children and women in situations of vulnerability are particularly exposed to these risks throughout all phases of their journey, including rescue operations, inspections and seizures of vessels and transfers to, and disembarkations at, places of safety, as well as throughout the process of status determination. Tailored approaches and gender-sensitive facilities should be provided to them. From a protection perspective, the absence of female guards at detention centres, together with the lack of women's participation generally in migrant response institutions, is part of the problem. More efforts are also needed to identify and provide protection to victims of trafficking, in particular women and girls, following their arrival in Europe.

56. I appeal to all Member States to engage positively in the development of the global compacts on refugees and migration, and to define adequate policies that are assumed by the whole of the international community, respecting the United Nations Convention on the Law of the Sea, relevant international law and human rights

instruments, and taking into account the legitimate interests of States, but also the legal obligations of the refugee protection regime and the opportunities that are generated by human mobility. Not all people on the move may fall within the legal category of a refugee, but refugees and migrants have the same universal human rights and fundamental freedoms and many of those travelling together share similar individual or situational vulnerabilities, irrespective of their legal status or the reasons that compelled them to move. Migrants may be in specific need of protection interventions, which are distinct from the protection provided by international refugee law. Only with improved migration governance — international cooperation for regular and safe migration pathways, and protection-sensitive entry procedures — can we better respond to the needs of those making these perilous journeys. In the meanwhile, the human rights and protection needs of all refugees and migrants, including migrants in vulnerable situations, must be adequately addressed, and saving lives must remain our absolute priority.